

# Continued Competency Assurance Program



Association of Professional Engineers and Geoscientists of New Brunswick

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**Comments on, or any requests for additional copies, of this report may be directed to:**

**Continued Competency Assurance Committee**

c/o Association of Professional Engineers and Geoscientists of New Brunswick  
183 Hanwell Road  
Fredericton, NB E3B 2R2

**Attention:** Committee Chair

**Phone:** 506.458.8083

**Fax:** 506.451.9629



# Continued Competency Assurance Program

## Preface

In May 1996, the Canadian Council of Professional Engineers (CCPE) produced a document entitled *Continued Competency Assurance of Professional Engineers*, which challenged engineering regulatory associations to develop competency assurance and professional development of engineers for Canada's engineering marketplace.

At the Association of Professional Engineers of New Brunswick's (APENB) Annual Meeting in 1998, APENB members approved the proposed Continued Competency Assurance Program. During the next year, the Continued Competency Assurance Committee and APENB Council conducted trials of this system and many members completed professional development records.

In late 1998, this report was presented to Council to communicate policies of the Continued Competency Assurance process. Since then, geoscientists have become part of the Association — necessitating a name change to the Association of Professional Engineers and Geoscientists of New Brunswick (APEGNB), and the updating of several documents, including this one.

This document is the result of a significant investment of volunteer and Committee time. It is a changing action document as well as a policy statement to reinforce quality of engineering and geoscience in our province.

At the February 23, 2002 Annual Meeting, the APEGNB Council proposed a by-law change to incorporate the Continued Competency Program into the Association by-laws. In May of 2002, the membership approved the following by-law:

- 11.6 Continuing Competency Assurance
  - 11.6.1 Members, licencees, engineers-in-training, and geoscientists-in-training shall comply with the requirements of any program established by Council with respect to continuing professional development and manner of practice for the purpose of paragraph 6(b) of the Act.
  - 11.6.2 The failure of a member, licencee, engineer-in-training or geoscientist-in-training to comply with paragraph 11.6.1 constitutes professional misconduct and is subject to enforcement through the disciplinary procedures of the act.

Through the challenge and experience of working with the guidelines, the process has been refined and improved. This document provides a renewed and comprehensive guideline for the program.

After working with the 1998 guidelines for several years, the Continued Competency Assurance Committee has refined the process and updated the guidelines. The major change adopted by Council in 2004, is that the Committee will now review the forms submitted by the members and, in certain circumstances, request a practice review. Where the information submitted by the members shows continuing professional development, the Committee will accept the member's information and not require anything further.

The Committee will reserve the right to continue to randomly select members for a complete practice review or to confirm the information submitted is accurate. Members may continue to request a review at anytime.

The Council and the Committee wish to continue to receive feedback from the membership to ensure that the guideline continues to be relevant to the maintenance of excellence in engineering and geoscience in New Brunswick.

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## EXECUTIVE SUMMARY

The Association of Professional Engineers and Geoscientists of New Brunswick (APEGNB), through the **Engineering and Geoscience Professions Act**, regulates the engineering and geoscience professions in New Brunswick.

Ensuring professional competency in a changing social, economic, and technological environment is increasingly complex. It requires a life-long commitment to learning and adapting to change.

The engineering and geoscience professions, like other professions, have begun to require their members to demonstrate this commitment as a condition for continued membership.

Virtually all provincial engineering/geoscience regulatory associations have either implemented or are in the process of implementing continued competency assurance programs.

Clearly, it is in the interest of the Association of Professional Engineers and Geoscientists of New Brunswick to implement a similar program, not only to demonstrate recognition of its responsibility to the people of New Brunswick, but also in the interests of the overall mobility of its members.

The APEGNB Continued Competency Assurance Program outlined in this document combines both a mandatory professional development program and a practice review. As such, it is the first to meet the CCPE objective that such programs ensure engineers and geoscientists are competent in terms of both their “acquisition of knowledge” and their “practice”. At the same time, the program, as defined, will meet the requirements of other engineering and geoscience associations and therefore, transferability should not be restricted.

The requirements permit engineers and geoscientists the maximum degree of flexibility in defining and meeting their continuing education requirements. As well, the program is designed to minimize paperwork and reporting requirements of the engineers and geoscientists.

It is finally noted that the process is intended to be advisory in nature. It is intended that the Continued Competency Assurance Program monitors the state of the professions and advises individuals of their adequacy or proposes initiatives where required.

## PART 1 - CONTINUED COMPETENCY ASSURANCE PROGRAM

### 1.1 Introduction

The Association of Professional Engineers and Geoscientists of New Brunswick has been entrusted with the responsibility for the regulation of engineering and geoscience in the Province of New Brunswick. In this role, the Association must protect the public interest by ensuring that engineers and geoscientists:

- Acquire and maintain a level of knowledge commensurate to their practice,
- Practise with an appropriate level of skill, and
- Conduct their work on an ethical basis.

The engineering and geoscience professions, like other professions, recognize that in a world of expanding knowledge and rapid technological change, competency is a dynamic issue. Learning has indeed become a lifelong process and professionals are called upon to maintain continued competency.

The Canadian Engineering Qualifications Board (CEQB) of the Canadian Council of Professional Engineers (CCPE) has addressed this issue. In November of 1996, CCPE adopted national guidelines for continued competency assurance of professional engineers. These guidelines propose that application mechanisms be developed by the bodies with the legislative authority for the development of the appropriate regulatory agency.

Continued Competency Assurance Programs are being adopted by other professional associations across Canada as well as agencies that regulate engineering in the United States. It is clear that continuation of existing transferability arrangements with other agencies and the overall recognition of membership in the Association of Professional Engineers and Geoscientists of New Brunswick is dependent upon our registration requirements being consistent with other jurisdictions. As other associations adopt continued competency assurance programs, APEGNB must implement a program to maintain the transferability and the recognition of our membership.

It is clear that the adoption of a continued competency assurance program is consistent with the actions of other professional self-regulating agencies in the province of New Brunswick to proactively monitor the competency of its members. The adoption of this program, therefore, provides evidence to the people of New Brunswick that APEGNB recognizes the responsibility with which it has been entrusted and is diligent in its authority of that responsibility.

The *Engineering and Geoscience Professions Act*, the By-Laws and the Code of Ethics clearly require that engineers and geoscientists practice only in areas in which they are competent. It also calls upon them to maintain and enhance their own competence, to contribute to the advancement of knowledge and to encourage employee engineers and geoscientists to improve their knowledge and education.

It is necessary that mechanisms exist to monitor the competency of the membership on a proactive basis. The Association of Professional Engineers and Geoscientists of New Brunswick provides the following guidelines in its endeavour to ensure that members of the Association strive to maintain their competency. These guidelines define the mechanisms that the APEGNB uses in the Continued Competency Assurance Program.

## 1.2 Continued Competency Assurance Components

The maintenance of continued competency is, and has been, the responsibility of the engineer and geoscientist. Individual programs for maintaining continued competency are expected to vary significantly and should be directed by the needs appropriate to the nature of the practice of the individual engineer or geoscientist.

Engineers and geoscientists are required to address two aspects to maintain continued competency:

- Acquisition of Knowledge  
Competency in terms of acquisition of knowledge is assured through the professional development program. The Guideline for Professional Development is presented in Part 2 of this document.
- Competency in Practice  
Competency in practice requires engineers and geoscientists to use processes and procedures that are consistent with the requirements of the *Engineering and Geoscience Professions Act* and respect their duty to fulfill their professional obligations to their clients and the public. Competency in practice is assured through practice reviews. The Practice Review Guideline is presented in Part 3.

## 1.3 Continued Competency Assurance Committee

There shall be a Continued Competency Assurance Committee appointed by Council and consisting of not fewer than three members of the Association. The Chair of the Admissions Committee will be an ex-officio member of this committee.

The terms of office and qualifications of the members and work of the Continued Competency Assurance Committee will be established by Council.

The Council will name one member of the Committee to the Chair.

No member of the Continued Competency Assurance Committee shall be a member of the Discipline Committee or the Professional Conduct Committee.

The Continued Competency Assurance Committee will, on behalf of Council:

- Initiate the Continued Competency Review process with APEGNB members being reviewed;
- Obtain information needed for the Continued Competency Review;
- Consider that information and determine whether or not the engineer or geoscientist is maintaining continued competency in his or her practice of engineering or geoscience;
- Provide direction and prescribe actions that are necessary to achieve compliance in the case of engineers or geoscientists who are not in compliance; and
- Report the aggregated results of the Continued Competency Review process to Council.

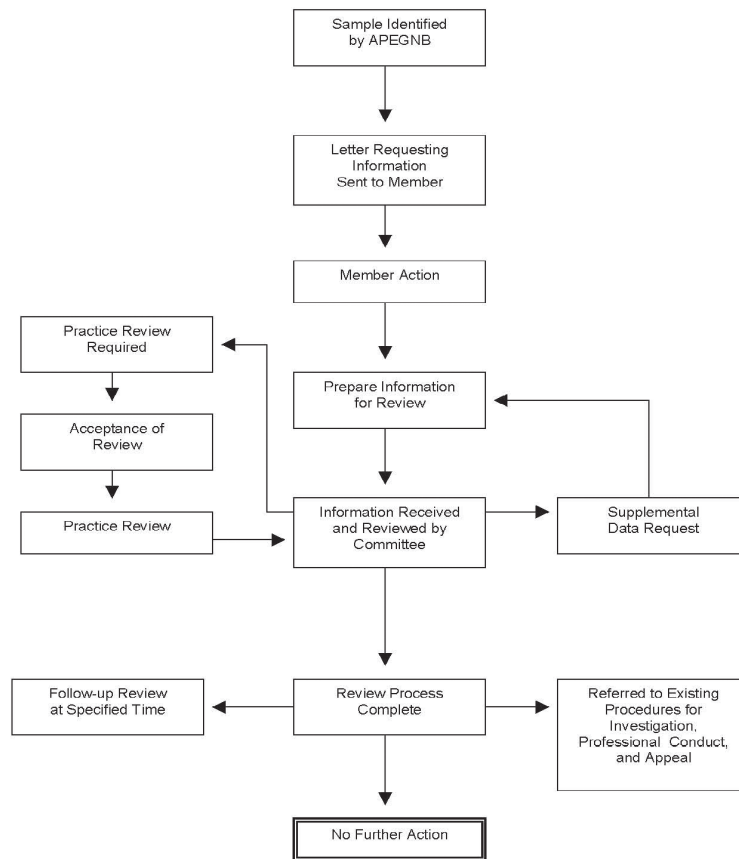
# Continued Competency Assurance Program

## 1.4 The Competency Assurance Process

The process to be used is illustrated in *Figure 1*.

The Competency Assurance process is an audit of the professional development activities and manner of practice of engineers and geoscientists. It consists of a review of the professional development activities of the engineer and geoscientist and, if necessary, a practice review. The Competency Assurance process will apply to all members. The purpose of the process is to ensure that the members of the Association of Professional Engineers and Geoscientists of New Brunswick are maintaining continued competency. The Competency Assurance process is viewed as a constructive and educational procedure. Members are encouraged to request a competency review as a means of self-improvement.

**Figure 1 APEGNB Competency Assurance Process**



### Members Affected

The APEGNB Competency Assurance process applies to all engineers and geoscientists who are practising engineering and geoscience as defined in the *Engineering and Geoscience Professions Act*. All engineers and geoscientists are presumed to be actively practising. It is understood that individual scopes of practice might range, for example, from detailed technical analysis, through techni-



cal sales, to management and direction of engineering and geoscience projects and enterprises. In every case, active practice will require adherence to the principles of the Continued Competency Assurance Program.

Exemptions from the Competency Assurance process shall be granted upon application for:

- Maternity/parental leave.

Exemptions may be granted for:

- Engineers and geoscientists who are retired and have no employment income from engineering or geoscience practice; and
- Cases of special consideration such as engineers and geoscientists working outside the country as deemed by a review committee to warrant special consideration based on criteria to be developed for evaluating such cases.

In all cases where exemptions are granted, engineers and geoscientists shall retain their professional designations and remain bound by the *Engineering and Geoscience Professions Act*.

Engineers and geoscientists taking a temporary break from their practice will be encouraged to continue their professional development program during that time.

#### **Identification of Members for Review**

1) Random Identification

The Council of the Association of Professional Engineers and Geoscientists of New Brunswick will provide a roster of members to the Continued Competency Assurance Committee for action. The selection of engineers and geoscientists will be on a random basis from a sample large enough to be representative of the membership. An engineer or geoscientist whose competency has been reviewed will not be placed on the random identification list for a period of three years.

2) Member Review Requests

Engineers and geoscientists may request a competency review. In such cases, they will be added to the sample.

3) Member Requesting Reinstatement

Engineers and geoscientists who have been granted exemption will be subject to a competency review prior to reinstatement.

#### **Member Notification**

All engineers and geoscientists to be reviewed in the Competency Assurance process will be so notified in writing.

#### **Objections**

An engineer or geoscientist wishing to object to the need for a review, the proposed schedule, or methodology, should notify the Continued Competency Assurance Committee in writing stating the reasons for the objection.

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## Assembly of Information

### *Information Required*

The information required for the Competency Assurance process will consist of three components listed as follows:

- General Information;
- Professional Development Activity Summary; and
- Practice Review (if required by the Committee).

## 1.5 Information Requirements

The Competency Assurance process is based on an examination of information regarding the professional development activities of the engineer or geoscientist and the manner in which he or she practises.

The information to be submitted consists of three components listed and described as follows:

### **Part A – General Information**

The General Information will be submitted by the engineer or geoscientist in accordance with the form in Appendix 3. This form contains basic biographical data and the scope and nature of the engineer's or geoscientist's practice.

### **Part B – Professional Development Activity Summary**

The engineer and geoscientist is required to submit a record of the professional development activities undertaken in the past three years. It is required that this professional development activity be summarized in terms of the number of Professional Development Hours (PDH) accumulated by activity type as established in Part 2. The form included in Appendix 3 provides a good format for this summary.

### **Review of Information**

The Continued Competency Assurance Committee will review the information submitted and will determine whether a Practice Review is required.

A Practice Review will be required, if, in the opinion of the Committee:

- a) The information submitted is incomplete or the Committee is unable to determine whether the member is maintaining their competency; or
- b) The information submitted reveals the member has not maintained their competency; or
- c) Such other reasons as the Committee may determine (e.g., the need to ensure the membership continues to maintain its competency through random practice reviews).

The member will then be advised by the Committee that the review is complete or if further action or a Practice Review is required.

### **Part C – Practice Review**

The Practice Review will be conducted in accordance with the guideline found in Part 3. A report will be provided by the reviewer to the Continued Competency Assurance Committee.

### **Information Flow**

General Information and the Professional Development Activity Summary will be assembled and submitted to the Continued Competency Assurance Committee by the engineer or geoscientist. The Practice Review Report will be submitted to the committee.

If the Committee finds that the engineer or geoscientist is not practising in a manner consistent with the principles embodied in the Continued Competency Assurance Program, a written request for improvement shall be made and a reasonable amount of time given for that improvement. A follow-up review may be conducted. If the follow-up review is also unsatisfactory, the matter may be referred for further action. At this point, any existing procedures of investigation, discipline and appeal may come into effect.

## **1.6 Records and Files**

Competency Review files retained by the Association are confidential and will not be used for reasons other than as provided for in the *Engineering and Geoscientist Professions Act*. Reports and letters of compliance are confidential and shall not be used by the engineer or geoscientist, employer of the engineer or geoscientist, agents or clients, for the purposes of advertisement or promotion or any other reason that would breach the confidentiality of the Competency Assurance Process. A Competency Review report shall not be used by the engineer or geoscientist as an endorsement of practice.

## PART 2 - PROFESSIONAL DEVELOPMENT GUIDELINE

### 2.1 Introduction

The trend toward mandatory professional development (PD) is common to many professions. In most provinces, the engineering and geoscience associations are moving towards mandatory requirements. So too, are the licensing boards in the United States. A similar trend is occurring in Europe. Individuals in jurisdictions that do not implement mandatory continued professional development programs may soon find it more difficult to work in other parts of the world. APEGNB has developed this program for tracking the professional development of its members to address these evolving changes in professional practice.

This program establishes a minimum benchmark for the professional development of engineers and geoscientists. The majority of engineers and geoscientists already undertake a greater level of effort than the minimum requirements set out in the guideline. These minimum requirements may not be adequate in particular circumstances. It is the responsibility of the engineer or geoscientist to assess his/her professional development needs, using this guideline as a minimum requirement.

The guideline provides flexibility for engineers and geoscientists to undertake activities that provide the greatest benefit to them in their own professional practice. Various formal and informal activities count towards professional development, and it is expected that each engineer and geoscientist will tailor his/her own development program to suit his/her own purposes. The only requirements imposed by the Association are that:

- 1) A minimum level of professional development activity be maintained over a rolling three (3) year recording period; and
- 2) A record of those activities be kept by the engineer or geoscientist.

Records of PD activities should be retained for at least (3) years. They will not normally be submitted to the Association. They must, however, be available for review by the Association in compliance with the requirements of the Continued Competency Assurance Program.

Individual engineers and geoscientists may find it helpful to develop further documentation for their PD programs. Such may include:

- A written description of the individual scope of practice;
- Assessment of the skills and knowledge required to support the scope of practice; and
- A written plan to maintain and improve those skills.

### 2.2 Individual Professional Development Program

APEGNB recognizes that the practices of engineering and geoscience are diverse. The scope of practice will vary widely between engineering and geoscience disciplines and sub-disciplines, and between individuals within those sub-disciplines. The Professional Development Program is designed to accommodate such differences by relying on member-directed learning rather than prescribed curriculum. It is necessary for individual engineers and geoscientists to decide what to learn and which methods best suit their specific continued PD requirements.

In developing a PD program, the individual concerned will find it useful to have a clear understanding of his/her scope of practice. Engineers and geoscientists are encouraged to write a short document that describes their scope of practice to serve as a reference for self-evaluation of ongoing PD activities. The scope of practice should allow for some flexibility within the individual practice; a narrowly defined or restrictive scope can impede professional development. In the event an engineer or geoscientist assumes a new position, or takes on significant new responsibilities, he or she will need to review and modify the scope of practice.

Having considered their scope of practice, engineers and geoscientists should ensure that their PD activities relate to their practice. A written plan of study may be helpful in this regard. It is important that professional development activities are relevant to the scope of practice, and attention to this at the planning stage is appropriate.

Activities relevant to continued PD may involve:

- The application or development of technical theory;
- Learning of new concepts;
- Practical experience;
- Management of engineering and geoscience practice;
- Communication and interpersonal skills; or
- Public, community, and professional service.

The level of effort that engineers and geoscientists apply to their PD programs is measured by Professional Development Hours (PDHs). The conversion between actual time spent in PD activities and PDHs depends upon the type of activity being pursued.

APEGNB requires that engineers and geoscientists pursue PD activities to the extent that they accumulate at least 240 PDHs in the first three (3) years of their program and in every successive three (3) year period thereafter. Engineers and geoscientists with programs of less than three years duration will be expected to accumulate 80 PDHs per year.

APEGNB recognizes six (6) categories of PD activities that can lead to the accumulation of PDHs. Each category is described briefly in the following sections along with specific examples of activities within the category and the PDH credit allowed. It should be understood that the lists of activities included in the various categories are not comprehensive. Engineers and geoscientists are urged to contact APEGNB if they need help categorizing any particular PD activity that is not specifically considered in this section. The PDH credit information is summarized in Table 1.

#### 1) Professional Practice

Active professional practice contributes to maintenance and improvement of skills. As such, it qualifies for PDH credits when the work falls within the scope of practice of the engineer or geoscientist. One (1) PDH can be claimed for each 20 hours of professional practice to a maximum of 40 PDHs per year.

Members in practice for thirty (30) or more years can claim a credit of twenty (20) PDH each year towards the maximum of 40 PDH.

#### 2) Formal Activity

Formal activities are those provided as a structured course or program, often for credit, occasionally with an evaluation process. Examples of formal activities are: courses provided through universities, technical institutes, and colleges; industry-sponsored courses, programs

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and seminars; employee training programs and structured on-the-job training; and short courses provided by technical societies, industry or educational institutions.

Generally, one (1) hour spent in the activity (contact hour) earns one (1) PDH. However, courses offering Continued Education Units (CEUs) will provide ten (10) PDHs for each CEU. University and college courses will provide ten (10) PDHs for each credit hour the course carries in the institution's academic calendar to a maximum of 30 PDHs per year.

### 3) Informal Activity

Informal activities are those activities that you pursue to expand your knowledge, skills or judgement. Examples of informal activities include: self-directed study of books and journals, attendance at conferences, technical sessions, seminars, workshops and industry trade shows, structured discussion of technical or professional issues with one's peers. Two (2) hours of informal activity earns one (1) PDH to a maximum of 30 PDHs per year.

### 4) Participation

Activities that promote peer interaction and provide exposure to new ideas and technologies both enhance the profession and serve the public interest. Examples of participatory activities include: acting as a mentor to an engineer- or geoscientist-in-training or other less experienced professional engineers or geoscientists; service on standing or ad-hoc committees of technical, professional or managerial associations or societies; service on public bodies that draw on your professional expertise (planning and regulatory boards and service commissions, investigative commissions, review panels, etc.); activities that contribute to the community or church organizations, or elected public service on municipal, provincial or federal levels. (A maximum of 10 PDHs per year may be claimed). One (1) hour of participatory activity earns one (1) PDH to a maximum of 20 hours of PDH.

### 5) Presentations

Technical or professional presentations that are made outside the normal job function qualify for PDH credit. Both preparation and presentation of material would normally be expected. Examples of qualifying activities include presentations at conferences or meetings, and presentations of courses, workshops or seminars. One (1) hour of actual presentation activity earns two (2) PDHs to a maximum of 20 per year.

### 6) Contributions to Knowledge

Activities that expand or develop the knowledge base in the disciplines of engineering and geoscience also constitute valid PD activity. In this case, the extent of PDH credit depends upon the detailed nature of the activity. Examples of qualifying contributions to knowledge include:

- Development of published Codes and standards, where one (1) hour of committee work earns (1) PDH.
- Patents, where each patent earns fifteen (15) PDHs;
- Publication of papers in peer-reviewed technical journals, where each paper earns fifteen (15) PDHs;
- Publication of articles in non-reviewed journals, where each article earns ten (10) PDHs;
- Reviewing or editing articles for publication where each hour spent in the review or editing process earns one (1) PDH;

A maximum of 30 PDHs may be accumulated for contribution to knowledge each year

PDH credit accumulations in excess of the minimum requirements may be carried forward for one year.

**Table 1 PROFESSIONAL DEVELOPMENT ACTIVITY  
Categories and Levels of Effort**

Category	Examples	PDHs/Activity Hour	Max./Year
Professional Practice	Active professional practice as engineer or geoscientist	1 PDH/20 hours	40
Formal Study	Courses at/from universities, industry, employer, technical societies.	1 PDH/hour <i>or</i> 10 PDHs/CEU <i>or</i> 10 PDHs/University Credit	30
Informal Study	Self-directed study, field trips, conferences, seminars.	1 PDH/2 hours	30
Participation	Mentor to an MIT, service on public bodies, technical committees, etc.	1 PDH/hour	20
Presentations to Others	Conference, field trip or meeting.	2 PDH/1 hour	20
Contributions to Knowledge	Codes and standards, patents, publications.	1 PDH/hour	30

PDH = Professional Development Hour      CEU = Continuing Education Unit

### 2.3 Records and Reporting

All engineers, including those who are temporarily exempted from the Competency Assurance Process, are expected to maintain a record for their continued professional development activities. This record must include pertinent dates, titles, venues, etc. for PD work claimed for PDH credit, as well as the category in which it is claimed, and the number of PDH's earned.

APEGNB does not require any specific format for the records kept under the PD program. A suggested format and form is provided in Appendix 5 for reference purposes.

Records will normally remain in the possession of individual engineers or geoscientists, and will only be submitted to APEGNB when they are specifically requested. The Association will not normally request detailed records from engineers or geoscientists each year.

### 2.4 Roles of Engineers and Geoscientists, the Association and Employers in Professional Development

The primary responsibility for professional development and maintaining competence rests with the individual professional engineer or geoscientist. This is inherent to all professions, and is reflected in the Association's By-Laws, Code of Ethics, and past practice.

The Association is, first and foremost, a guardian of the public interest in the matters of engineering and geoscience works. As such, APEGNB's primary role is to establish standards of practice for those that are authorized by the Association to do engineering and geoscience.

All employers also have a role to play in the professional development of engineers and geoscientists in their employ. Engineers and geoscientists are encouraged to discuss their PD programs and plans

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with their employers. Through discussion and mutual agreement, the employer and the engineer or geoscientist can decide on professional development goals and the nature of employer support of those goals.

Employers who are also professional engineers or geoscientists have an ethical obligation to “encourage engineering and geoscience employees to improve their knowledge and education”. While the nature and extent of this encouragement is left to the determination of responsible engineers and geoscientists, support of the PD programs of employee engineers or geoscientists is certainly appropriate in this context.

## PART 3 - PRACTICE REVIEW GUIDELINE

### 3.1 The Practice Review Process

Practice Reviews, when required, are an important component in the Continued Competency Assurance Program of the Association of Professional Engineers and Geoscientists of New Brunswick. The process is confidential and applies to individual engineers and geoscientists. The Practice Review will be conducted at the request of the Continued Competency Assurance Committee.

The Practice Review is intended to confirm that an engineer or geoscientist who practices in a given field will perform in a manner consistent with the performance of reputable professionals practising in the same field. The reviewer will review the engineer's or geoscientist's scope of practice and evaluate his/her qualifications, experience, and processes, with respect to that practice.

The Practice Review is conducted by a peer engineer or geoscientist with knowledge and background appropriate to evaluate the manner in which the engineer or geoscientist practises.

One reviewer will usually be sufficient. A supplementary review may be necessary if the first reviewer does not consider his/her expertise and experience to be sufficient.

The reviewer will be appointed by the Continued Competency Assurance Committee in consultation with the engineer or geoscientist being reviewed. The reviewer will be a registered engineer or geoscientist with a scope of practice similar to that of the engineer or geoscientist being reviewed.

The reviewer will be contacted by the Continued Competency Assurance Committee. The reviewer and the engineer or geoscientist will be given instructions with respect to the timing and manner of the Practice Review and appropriate arrangements will be made.

The reviewer must be or become familiar with the work of the engineer or geoscientist. This may be achieved through a discussion with the engineer or geoscientist being reviewed and an examination of his or her work including plans, drawings, maps, reports, and calculations.

It is proposed that the practice review can be achieved by a visit to the workplace of the engineer or geoscientist and an interview with the engineer or geoscientist. Prior to the site visit, the Committee will provide the reviewer with copies of the information as completed for the Competency Assurance process.



Where the practice of the engineer or geoscientist involves confidential, commercially sensitive, or proprietary information, the engineer or geoscientist is not required to disclose this information. The engineer or geoscientist should advise the Continued Competency Assurance Committee and reviewer of the general nature of the information upon which confidentiality is being maintained.

The reviewer will compile a practice review report as outlined in these guidelines. The report will be discussed with the individual being reviewed. The report will be submitted to the Continued Competency Assurance Committee.

### 3.2 Practice Review Overview

#### General

The Practice Review includes:

- An Evaluation of the process by which work is produced;
- Examination of the engineer's or geoscientist's adherence to the *Engineering and Geoscience Professions Act*, By-laws, Code of Ethics and the Continued Competency Assurance Program;
- An evaluation of capability in the discipline or field of practice as determined by the reviewer; and
- An examination of the engineer's or geoscientist's work.

#### Preparation

The site visit is a meeting between the engineer or geoscientist being reviewed and the reviewer. This review will normally occur at the engineer's or geoscientist's place of employment, unless otherwise discussed with, and agreed to, by the reviewer. The documents requested must be completed to the satisfaction of the Competency Assurance Committee.

Where a site visit is impractical, a telephone review may be requested by the engineer, geoscientist, or reviewer, with such necessary modifications to the procedure for the telephone interview as is required.

#### The Practice Review

The site visit begins with a review of the Practice Review process, followed by a review of the documents completed by the engineer or geoscientist.

The following criteria will be considered during the review:

- Scope of practice;
- Technical capability;
- Access to resources;
- Records;
- Quality assurance procedures;
- Means by which competence is maintained; and
- Proper use of engineering or geoscience seals.

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## Scope of Practice

The scope of the engineer's or geoscientist's practice will be reviewed. This assessment may include, but is not limited to:

- The types of projects undertaken by the engineer or geoscientist;
- The role played by the engineer or geoscientist in these projects; and
- The level of responsibility assumed or taken by the engineer or geoscientist.

The reviewer will consider projects and documents as a means of understanding the engineer's or geoscientist's scope of practice. These documents may include, but are not limited to:

- Contracts;
- Project list, log book, time sheets;
- Proposals;
- Drawings, specifications, maps, reports, etc.; and
- Promotional brochures.

An employer's policies (both technical and corporate) will be reviewed only as to their potential impact on an engineer's or geoscientist's practice.

## Technical Capabilities

The reviewer will assess the technical capability of an engineer or geoscientist within the scope of practice. The following may form part of the reviewer's evaluation:

- Technical training;
- Length and type of experience appropriate to scope of practice;
- Involvement of an engineer or geoscientist in continued professional development; and
- Knowledge in field.

The reviewer will verify technical currency and capability by selectively reviewing criteria that can include some of the following:

- References;
- Memberships in technical associations;
- Attendance at seminars, conferences, workshops;
- Extent of publishing;
- Design notes of a specific project;
- Complete design drawings;
- Project specifications;
- Relevant sub-consultant reports;
- Design codes and material standards used; and
- Design criteria used and assumptions made.

## Access to Resources

The reviewer will attempt to confirm the engineer or geoscientist has access to all required and necessary technical, personnel resources, and equipment, to perform the professional responsibilities associated with his/her scope of practice.

The reviewer will establish whether the engineer or geoscientist is in frequent contact with experienced peers and that resources are relevant and current regarding codes and standards.

The reviewer may examine documents to verify:

- Use of an accessible technical library;
- Use of current codes, by-laws and standard documentation;
- Availability and currency of catalogues, product information, and technical journals;
- Availability of the necessary equipment to perform the stated scope of work; and
- Field safety programs.

#### **Records Management**

The reviewer will verify if the engineer or geoscientist maintains relevant and adequate project files to document the work performed.

The reviewer will assess whether engineering or geoscience design notes are legible, indexed and complete. As well, investigations, reports, contract documents, field changes and design revisions will be reviewed for proper documentation, accessibility and safe storage.

#### **Quality Management**

The reviewer will assess whether an engineer or geoscientist has an independent engineer or geoscientist available to review calculations and designs, particularly in high-risk situations, and whether such a review is used.

A reviewer may consider a formal quality management plan by the engineer's or geoscientist's employer as partial compliance with quality control aspects of the review.

## PART 4 - PROCEDURES FOR PRACTICE REVIEW

### 4.1 Introduction

The objective of this document is to outline the regular work of the Continued Competency Assurance Committee (CCAC), specifically as it relates to the conduct of practice reviews as established by the Association of Professional Engineers and Geoscientists of New Brunswick. The procedures as outlined are subject to revisions to improve and augment the program.

### 4.2 Stages in a Continued Competency Assurance Review

The procedures, and / or steps to be followed by CCAC in the conduct of the Review, are listed below. They are subject to revision to improve and augment the program.

#### 1) Identification of Random Sample of Membership

The majority of engineers and geoscientists who undergo a Review will be selected by their member number using a random number generator that the Association of Professional Engineers and Geoscientists of New Brunswick has adopted.

Members and licencees who will be chosen by this process will be identified by their member number. The sample size and initial seeding of the random numbers will be defined by CCAC, and based on a fair and uniform distribution. Candidates who have successfully completed reviews will be removed from the selection process for three years.

#### 2) Identification of Others to be Reviewed

Others will also be identified for review. These will include:

- a) Engineers and geoscientists who request a Practice Review as a means of self-improvement; and
- b) Reviews conducted as follow-ups to reviews that have been conducted in the past.

Additional Practice Reviews may be necessary outside of the standard schedule from time to time.

#### 3) Identification and Appointment of Reviewers

- The success of the process is dependent upon the selection of reviewers who are qualified and possess excellent judgement.
- The selection and appointment of reviewers shall be made by CCAC.
- Reviewers must be of good character and have a respected professional reputation.
- Reviewers are required to sign a non-disclosure agreement of confidentiality, which states that information will not be disclosed to other parties.
- Retired engineers and geoscientists are eligible as reviewers.
- The reviewers shall have relevant and current experience in the general practice of engineering and geoscience in the broad discipline of the engineer or geoscientist being reviewed and be accepted by the engineer or geoscientist being reviewed.
- The Association maintains a liability insurance policy on behalf of all appointed reviewers paid by the Association
- Reasonable out-of-pocket expenses will be provided to reviewers.

#### **4) Training of Reviewers**

It will be necessary to train reviewers. It is necessary that all reviewers understand the nature and the objective of the Practice Review.

Seminars will be provided for reviewers, and will be completed prior to a first assignment. The objective of training seminars is to ensure the delivery of a standard review process in a consistent and equitable manner. Further objectives to be met by a training program include:

- Education of the reviewers about the program;
- Identification of problems and development of solutions; and
- Review of the process and related appeals.

#### **5) Notification of Members**

Engineers and geoscientists selected for review will be notified in writing of their selection for a review. The General Information form (Appendix 3) will be included.

#### **6) Review of Professional Development**

The Committee will review the information submitted and determine whether further information, action or a practice review is required. Once this determination has been made the member will be advised of the decision.

#### **7) Practice Review**

In the event that the Committee decides a practice review is required, a reviewer will be proposed at this time based on registration information in APEGNB files for the engineer or geoscientist selected for review and the information submitted by the member. The engineer or geoscientist will be asked to accept the proposed reviewer or to propose an alternative, and to advise the Committee if the employer and/or supervisor should be involved in the process. This is particularly appropriate where issues of confidentiality of work may arise.

Appendix 4 contains a sample of a letter of notification.

#### **8) Response of Member to Above letter**

The engineer or geoscientist will respond to the above letter. The engineer or geoscientist may request via the Practice Review Acceptance Form that the review be deferred or postponed. These requests will be considered by the Committee on a case-by- case basis.

#### **9) Contact Employers and/or Supervisors**

When requested by the engineer or geoscientist, the employer/supervisor will be contacted by APEGNB. Employers will be assured that their legitimate needs for confidentiality will be respected in the process.

#### **10) Documentation Received by APEGNB Office**

Engineers or geoscientists undergoing a Practice Review will provide the appropriate documentation to the office of the Association of Professional Engineers and Geoscientists of New Brunswick.

#### **11) The Practice Review Conducted**

The Practice Review will be conducted by the Practice Reviewer and the report of the reviewer will be sent to the Committee and the engineer or geoscientist being reviewed. A response or comment to the report may be filed by the engineer or geoscientist with the Committee.

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## 12) CCAC Reviews Report of Practice Reviewer

At this stage, any response from the engineer or geoscientist being reviewed will be considered and a decision considered by the Committee.

## 13) Committee Responds to Individual Reviewed

A letter informing the member of the outcome of the Practice Review will be sent. The engineer or geoscientist can appeal the Committee's decision to Council. Council will refer to an independent review board.

### 4.3 Practice Reviewer's Instructions

#### Objective of the Process, and the Practice Review

The reviewer is a vitally important person in the Continued Competency Assurance Program as the reviewer provides the interface between the process and the individual engineers and geoscientists. The reviewer must exercise great care in obtaining the required information while at the same time preventing the process from becoming invasive and objectionable. Reviewers are advised to exercise some caution in this process and to avoid confrontation with those being reviewed.

The reviewer should attempt to defuse any negative concerns that the reviewee may have. It must be remembered that for the vast majority of engineers and geoscientists, the experience should leave a positive impression.

The Practice Review process is based on site visits to individual engineers and geoscientists to review their professional development activities and the manner in which they practise engineering or geoscience. The process is meant to monitor the general state of the professional as well as to assess the capabilities of individual engineers and geoscientists; it should not be confused with a practice review conducted by the Professional Conduct Committee in looking into a complaint lodged. This process should be viewed as being beneficial to the public, the profession, and to the engineers and geoscientists being reviewed.

#### Activities Before the Site Visit

The reviewer will receive information from the Continued Competency Assurance Committee related to the individual being reviewed. This information will include all information related to a description of the scope of practice of the engineer or geoscientist, a description of the job of the engineer or geoscientist and the resources available to him or her. The form to be filled out by the engineer or geoscientist in this process is shown as Appendix 3.

The information to be reviewed will also include a listing of the professional development activities of the engineer or geoscientist-- usually for the most recent three years.

The reviewer will review the documentation provided. In particular, the reviewer will assess whether the professional development activities satisfy the established requirements of the Association of Professional Engineers and Geoscientists of New Brunswick.

The reviewer will contact the engineer or geoscientist being reviewed to set a time, date, and location for the site visit.

#### The Site Visit

The site visit consists of an opportunity for the reviewer and the engineer or geoscientist being reviewed to meet. This is normally done at the place of employment of the engineer or geoscientist being reviewed. It is an opportunity for the reviewer to gain a better understanding of the informa-

tion provided in the documents and forms for the review, and allows the reviewer to better understand the nature of the practice of the engineer or geoscientist being reviewed.

The site visit is itself an interview. A guide on the conduct of the interview is provided in the next section.

It is anticipated that the interview should be completed in approximately two hours.

### **Guide to the Interview**

The objective of the interview is to gain a better insight into the engineer or geoscientist and the practice of the engineer or geoscientist. In some respect, the interview is a supplement to the information already provided on other documents and puts this information in context.

The interview can move through several phases, which are described in the following paragraphs:

#### Phase 1 - Introduction

A certain amount of hesitation can be expected from anyone who is to be reviewed and this should be accommodated.

The initial part of the interview should describe the process within an appropriate framework. A general explanation of the process, the philosophy of the process and the fact that the vast majority of engineers and geoscientists are unquestionably capable and competent, should help engineers and geoscientists to become comfortable with the process.

#### Phase 2 – Review of Documentation

In this phase the reviewer will review the information in the documentation provided for the review. Any questions regarding this information can be addressed.

#### Phase 3 – Review of Work

In this phase, the reviewer will gain insight that will only be available through a site visit. This includes looking at projects, work, and resources available, again within the limits of confidentiality of employers.

#### Phase 4 – Discussion of Results

The reviewer will outline to the engineer or geoscientist his/her findings and what will be reported to the Continued Competency Assurance Committee. Any issues that are of concern to the reviewer should be raised and outlined to the engineer or geoscientist being interviewed.

### **Reports**

Following the site visit, the reviewer will complete a report, which will be sent to the engineer or geoscientist and the Continued Competency Assurance Committee. The report should be brief and concise and should summarize the findings of the reviewer. The reviewer must conclude that the engineer or geoscientist is either:

- a) Practising engineering and geoscience in a manner consistent with the requirements of the Association of Professional Engineers and Geoscientists of New Brunswick. Reviewers are requested to make recommendations that could improve the quality of the reviewed engineer's or geoscientist's practice; or
- b) Practising in a manner, which is not consistent with the principles embodied in the Continued Competency Assurance Program.

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A sample of a report is included in Appendix 6. The report will be provided to the engineer and geoscientist and the Committee within 30 days of the interview.

The engineer or geoscientist may file an objection to the report of the reviewer to the Committee. If the Committee receives no objection to the report within 30 days of forwarding to the engineer or geoscientist, the Committee will assume the engineer or geoscientist has accepted the report.

The Committee will consider the report of the reviewer and any response from the engineer or geoscientist and render a decision. The Committee will send a letter informing the engineer or geoscientist of the outcome of the Practice Review. The engineer or geoscientist may appeal the Committee's decision to Council. If necessary, Council will refer to an independent review board.



## APPENDICES

## APPENDIX 1

### **APEGNB Definition of the Practice of Engineering**

*The application of scientific principles and knowledge to practical ends such as the investigation, design, construction, or operation of works and systems for the benefit of society.*

### **APEGNB Definition of the Practice of Geoscience**

*Studies or investigations within any of the disciplines of the geological sciences which deal with the origin, history, structure, composition, properties or conditions of the earth, as well as with geological processes operating now or in the past.*

### **CCPE Definition of the Practice of Professional Engineering**

*The “practice of professional engineering” means any act of planning, designing, composing, evaluating, reporting, directing or supervising, or managing any of the foregoing*

*that requires the application of engineering principles,*

*and*

*that concerns the safeguarding of life, health, property, economic interests, public welfare, or the environment.*

### **CCPG Definition of the Practice of Professional Geoscience**

*The “practice of professional geoscience” means the performing of any activity that requires application of the principles of the geological sciences, and that concerns the safeguarding of public welfare, life, health, property, or economic interests, including but not limited to:*

- a. Investigations, interpretations, evaluations, consultations or management aimed at discovery or development of metallic or non-metallic minerals, rocks, nuclear or fossil fuels, precious stones and water resources;*
- b. Investigations, interpretations, evaluations, consultations or management relating to geoscientific properties, conditions or processes that may affect the well-being of the general public, including those pertaining to preservation of the natural environment.*

## APPENDIX 2

### Sample Letter

John Doe, P.Eng.  
ABC Company  
123 Avenue  
Fredericton, NB E21 3B3

Dear Mr. Doe:

The Association of Professional Engineers and Geoscientists of New Brunswick (APEGNB) undertakes a number of processes to ensure that the public of New Brunswick receives engineering/geoscience services from capable and qualified engineers/geoscientists. APEGNB participates in accreditation of university engineering programs and undertakes admissions processes, professional conduct activities, and competency assurance processes. APEGNB monitors the continued competency of engineers who practice in the Province through a random sampling of engineers. The monitoring is to ensure that engineers are maintaining continued competency in terms of both acquisition of knowledge and in the manner in which they practice. The process is not intended to be unfriendly or onerous.

This letter is to advise you that you have been selected through a random sampling by APEGNB for a review. We have included two documents for your reference. The first document is the Policy and Procedures for confidentiality of the process, and the General Information form, which is to be completed by you and returned to my attention in an envelope marked "Confidential" on the outside. If you wish to object to the proposed review, or be exempted from the process at this time, then you must outline your reasons and forward to my attention again, in an envelope marked "Confidential".

After receiving the forms, the Continued Competency Assurance Committee will review the information and determine if a practice review is required.

Please be assured that we wish to be as positive and helpful as possible and recognize that the Practice Review must not compromise any requirements of confidentiality of you and your employer. If you wish that APEGNB contact your employer and/or supervisor, to reassure them, please advise us.

We ask that we receive your response within 30 days. We thank you for your effort to ensure the continuing quality of engineering and geoscience for the people of our province and our country.

Yours truly,

CCAP Coordinator