

ENGINEERING AND GEOSCIENCE PROFESSIONS REGULATORY BYLAWS

Regulatory Bylaws Subsection 16(2)

Title

1 These bylaws may be cited as *The Engineering and Geoscience Professions Regulatory Bylaws, 1997*.

Definitions

2 In these bylaws:

- (a) **"Act"** means *The Engineering and Geoscience Professions Act*;
- (b) **"lay councillor"** means a person who is appointed to the Council pursuant to section 10 of the Act;
- (c) **"member-in-training"** means a person who is an engineer-in-training or a geoscientist-in-training;
- (d) **"prescribed fee"** means the fee prescribed in *The Engineering and Geoscience Professions Administrative Bylaws, 1997*;
- (e) **"professional member"** means a person who is a professional engineer or a professional geoscientist.

MEMBERSHIP

Categories of membership

3 The following categories of membership are established:

- (a) engineer-in-training;
- (b) geoscientist-in-training;
- (c) professional engineer;
- (d) professional geoscientist;
- (e) engineering licensee;
- (f) geoscience licensee;
- (g) life member (engineering); and

- (h) life member (geoscience).

Member-in-training

4(1) Registration in the Association as an engineer-in-training or a geoscientist-in-training is available to a person of good character who has completed the academic requirements for registration as a professional engineer or professional geoscientist.

(2) Registration as a member-in-training expires after seven years, unless, where exceptional circumstances exist in the opinion of the Council, the Council extends that period.

(3) A member-in-training is entitled to the following privileges of membership:

- (a) to hold himself or herself out as an engineer-in-training or a geoscientist-in-training, as the case may be;
- (b) to attend, participate in and vote at meetings of the Association and in elections;
- (c) to be eligible for appointment to committees of the Association;
- (d) to be eligible to be elected to council as a representative of members-in-training;
- (e) to receive any notices and newsletters from the Association.

(4) An engineer-in-training or a geoscientist-in-training is required to complete the engineering or geoscience work required by virtue of clause 10(1)(a) or 11(1)(a) under the direct supervision of a professional engineer or professional geoscientist, or to have a mentor who is a professional engineer or professional geoscientist acceptable to the Council, unless, where exceptional circumstances exist in the opinion of the Council, the Council waives the direct supervision or mentor requirement.

Professional member

5(1) Registration in the Association as a professional engineer or professional geoscientist is available to a person of good character who meets the requirements of section 20 of the Act and these bylaws.

(2) In addition to the privileges of membership provided for in the Act, a professional member is entitled to the following privileges of membership:

ENGINEERING AND GEOSCIENCE PROFESSIONS REGULATORY BYLAWS

- (a) to attend, participate in and vote at all meetings of the Association and in elections;
- (b) to be eligible for appointment to committees of the Association and to stand for or be elected or appointed to office; and
- (c) to receive any notices and newsletters from the Association.

Engineering and Geoscience Licensees

6(1) Registration in the Association as an engineering or geoscience licensee is available to a person of good character who meets the requirements of subsection 20(2) of the Act and these bylaws.

(2) An engineering or geoscience licensee is entitled to the following privileges of membership:

- (a) to hold himself or herself out as an engineering licensee or a geoscience licensee, as the case may be;
- (b) to attend, participate in and vote at all meetings of the Association and in elections;
- (c) to be eligible for appointment to committees of the Association and to stand for or be elected or appointed to office; and
- (d) to receive any notices and newsletters from the Association.

(3) A person who is registered as a limited member on the day before this bylaw comes into force shall become registered as:

- (a) an engineering licensee if that person was licensed as a limited member (engineering); or
- (b) a geoscience licensee if that person was licensed as a limited member (geoscience).

Life Member

6.1(1) A member in good standing who is 65 years of age or more, or who was designated a life member pursuant to *The Engineering profession Act*, as it existed on March 5, 1997, and who is retired is eligible to be granted life member status by Council.

ENGINEERING AND GEOSCIENCE PROFESSIONS REGULATORY BYLAWS

- (2) Life members have no right to practice but are entitled to vote at all meetings of the Association.
- (3) Life members are not required to pay the prescribed fee for annual membership.
- (4) A life member who wishes to regain their right to practice shall notify Council of their intention and will be subject to payment of the prescribed fee for membership and licence on a prorated basis as determined by the Registrar.

REGISTRATION

Registration procedures generally

- 7(1) Applications for registration shall be made on a form provided by the Association for the purpose.
- (2) The certificate of registration issued to members shall be in the form determined by Council.

QUALIFICATIONS FOR REGISTRATION

Member-in-training

- 8 To qualify for registration as an engineer-in-training or a geoscientist-in-training, a person must meet the academic requirements set out in subsection 20(1) of the Act.

Engineering and Geoscience Licensees

- 9 To qualify for registration as an engineering or geoscience licensee, a person must, in addition to the requirements set out in subsection 20(2) of the Act, in the opinion of the Council, be qualified to practise in a particular field or type of engineering or geoscience, under any terms and conditions that the Council may determine.

Professional engineer

- 10(1) To qualify for registration as a professional engineer, a person must, in addition to the requirements set out in subsection 20(1) of the Act:
 - (a) in the case of a person:

ENGINEERING AND GEOSCIENCE PROFESSIONS REGULATORY BYLAWS

- (i) who is registered as an engineer-in-training:
 - (A) on or before December 31, 1997, have two years of experience in engineering work satisfactory to the council; or
 - (B) after December 31, 1997, have four years of experience in engineering work satisfactory to the Council as set out in Appendix 3;
 - (ii) who is a former member of the Association or of an association in another jurisdiction recognized by the Council as being comparable to the Association, have four years of experience in engineering work satisfactory to the Council as set out in Appendix 3; and
- (b) complete an examination, called "Principles of Professional Practice", which conforms to the required admission standards, secure a grade acceptable to the Council, and pay the required examination fee, or submit evidence satisfactory to the Council that he or she has already passed a similar examination recognized by the Council or was admitted to membership in a Canadian professional association recognized by Council prior to January 1, 1987.
- (2) Subsection (1) does not apply to a person who is a member in good standing, as a professional engineer, of an association of engineers in another jurisdiction recognized by the Council as being comparable to the Association.

Professional geoscientist

11(1) To qualify for registration as a professional geoscientist, a person must, in addition to the requirements set out in subsection 20(1) of the Act:

- (a) in the case of a person:
 - (i) who is registered as a geoscientist-in-training:
 - (A) on or before December 31, 1997, have two years of experience in geoscience work satisfactory to the council; or
 - (B) after December 31, 1997, have four years of experience in geoscience work satisfactory to the Council as set out in Appendix 4;

ENGINEERING AND GEOSCIENCE PROFESSIONS REGULATORY BYLAWS

- (ii) who is a professional engineer or engineer-in-training or a former member of the Association or of an association in another jurisdiction recognized by the Council as being comparable to the Association, have four years of experience in geoscience work satisfactory to the Council as set out in Appenix 4;
 - (b) complete an examination, called "Principles of Professional Practice", which conforms to the required admission standards, secure a grade acceptable to the Council, and pay the required examination fee or submit evidence satisfactory to the Council that he or she has already passed a similar examination recognized by the Council.
- (2) Subsection (1) does not apply to a person who is a member in good standing, as a professional geoscientist, of an association of engineers or geoscientist in another jurisdiction recognized by the Council as being comparable to the Association.
- (3) Notwithstanding subsection (1), for the purposes of section 67 of the Act, a person qualifies for registration as a professional geoscientist if the person:
- (a) applies for registration as a professional geoscientist within two years after the day on which the Act comes into force;
 - (b) holds a university degree recognized by the Council in geoscience or a related discipline and has five years of work experience in geoscience satisfactory to the Council, or has 10 years of work experience in geoscience satisfactory to the Council, and, in either case, at least one year of which is work experience in Canada; and
 - (c) names four geoscientists who are members of a recognized professional institution or learned society acceptable to the Council and who are familiar with the person's work experience who attest to the peer acceptance of the work and ability of the person as a geoscientist.

Maintenance of membership

12 In order to maintain his or her registration as a member, a member shall pay the prescribed fee for annual membership, and a member who fails to pay that fee on or before the required date for payment ceases to be a member.

ENGINEERING AND GEOSCIENCE PROFESSIONS REGULATORY BYLAWS

LICENCES

Licences required

13(1) Subject to subsection (2), all members are required to obtain an annual, restricted or temporary licence, as the case may be, by submitting any required form provided by the Association, together with the required fee, prior to January 31 in each year.

(2) A member who is retired or is not working in Saskatchewan may apply to the Council to waive the requirement to obtain a licence while the member is retired or not working in Saskatchewan.

(3) A member who does not obtain a licence or a waiver in accordance with subsections (1) and (2) ceases to be a member as at January 31 of the year for which the licence or waiver is required.

(4) Subsection (3) does not apply to a member in respect of whose conduct an investigation is initiated or pending until any discipline proceedings arising from the investigation are completed and any penalty imposed by the discipline committee as a result has been enforced.

Annual licence

14(1) An annual licence is available to a member-in-training, a professional engineer or a professional geoscientist.

(2) An annual licence provided to a member-in-training entitles the member to practise professional engineering or professional geoscience, as the case may be, in accordance with the Act and the bylaws.

(3) An annual licence provided to a professional member entitles the member to practise professional engineering or professional geoscience, as the case may be, in accordance with the Act and the bylaws.

(4) No annual licence permits a member-in-training or professional member to engage in consulting activities for which a permission to consult is required in accordance with section 17.

Restricted licence

15(1) A restricted licence is available to a limited member whose area of practice is restricted, for any reason, to certain types of work, times or geographical locations.

(2) For the purposes of subsection 20(2) of the Act, the Council may impose appropriate restrictions on the practice of a limited member.

Temporary licence

16 A temporary licence is available to a person of good character who is not a member, but who is entitled to the benefits of temporary licensure under the North American Free Trade Agreement.

Permission to consult

17(1) In this section:

(a) **"consulting engineering or geoscience services"** means engineering or geoscience services provided by a member to be used by persons other than the employer of that member.

(b) **"eligible member"** means:

(i) a professional member who is a licensee;

(ii) an engineering or geoscience licensee who has obtained a license pursuant to subsection 18(2)(b) of the Act; or

(iii) a holder of a temporary licence.

(2) A member shall not provide or offer to provide consulting engineering or geoscience services, directly or indirectly, without first obtaining permission to consult.

(3) An eligible member who wishes to offer consulting engineering or geoscience services shall obtain permission to consult by notifying the Registrar of his or her intent to do so and the area of practice in which he or she proposes to offer consulting engineering or geoscience services on the form provided by the Association.

(4) A holder of permission to consult shall not offer consulting engineering or geoscience services, nor supervise any professional activities, in an area of practice other than that for which the permission to consult was acknowledged by the Registrar.

(5) A holder of permission to consult wishing to amend the area of practice shall notify the Registrar of the amended area of practice prior to providing or offering to provide consulting engineering or geoscience services in the amended area of practice.

(6) Every holder of a permission to consult shall place his or her signature and registration number on all documents that have been prepared under his or her supervision within the certificate of authorization seal appearing on the document.

(7) Permission to consult acknowledged by the Registrar, including one that is amended in accordance with subsection 5, expires on December 31 of the year in which it was acknowledge and shall be renewed annually in accordance with subsection (3).

(8) Notwithstanding subsections (2) and (3), an eligible member who holds a valid licence for permission to consult shall not be required to provide notice of his or her intention to provide consulting engineering or geoscience services until December 31 of the year of the expiry of his or her licence for permission to consult, or until the area of practice is amended.

Certificate of authorization

18(1) A partnership, association of persons or corporation described in subsection 22(2) of the Act that wishes to apply for a certificate of authorization shall submit an application to the Association on the form prescribed in Appendix 1, together with the prescribed fee.

(2) Every holder of a certificate of authorization shall place its seal or equivalent on all documents that have been prepared by a licensee on its behalf.

Applications to review decisions of the registrar

19(1) For the purposes of subsection 24(4) of the Act, an application to review a decision of the registrar respecting an application for registration or licensure must be made to the Council, within 30 days after a written copy of the decision is served, by sending or delivering a written request in the form of a letter to the Council, which must be received in the Association's head office within that time, setting out the grounds on which the applicant alleges that the registrar's decision is in error, together with any documentation necessary to support the allegation.

(2) The Council shall provide an applicant for review with an opportunity to make a verbal presentation to the Council, if desired by the applicant, as soon as possible after the application is received.

PROFESSIONAL CONDUCT

Code of Ethics

20(1) All members and holders of temporary licences shall recognize this code as a set of enduring principles guiding their conduct and way of life and shall conduct themselves in an honourable and ethical manner, upholding the values of truth, honesty and trustworthiness, and shall safeguard human life and welfare and the environment.

(2) Without restricting the generality of subsection (1), members and licensees shall:

- (a) hold paramount the safety, health and welfare of the public and the protection of the environment and promote health and safety within the workplace;
- (b) offer services, advise on or undertake professional assignments only in areas of their competence and practise in a careful and diligent manner;
- (c) act as faithful agents of their clients or employers, maintain confidentiality and avoid conflicts of interest;
- (d) keep themselves informed in order to maintain their competence, strive to advance the body of knowledge within which they practise and provide opportunities for professional development of their subordinates;
- (e) conduct themselves with fairness, courtesy and good faith towards clients, colleagues, employees and others; give credit where it is due and accept, as well as give, honest and fair professional criticism;
- (f) present clearly to employers and clients the possible consequences if professional decisions or judgments are overruled or disregarded;
- (g) report to the Association any alleged illegal practices, professional incompetence or professional misconduct by members;
- (h) be aware of, and ensure that clients and employers are made aware of, societal and environmental consequences of actions or projects, and endeavour to interpret professional issues to the public in an objective and truthful manner;
- (i) build their reputations and offer their services on the basis of merit and compete fairly with others considering all relevant factors, not just fees.

DISCIPLINE

Investigation Committee

21(1) The Investigation Committee that the Council is required to appoint pursuant to section 31 of the Act shall consist of at least nine members, in addition to the lay councillor who is required to be appointed by subsection 31(2) of the Act.

(2) The Investigation Committee shall:

- (a) advise the member that a complaint has been received and of the nature of the complaint and invite comments from the member in reply;
- (b) provide the member with a copy of the Committee's investigation procedures;
- (c) review and investigate the complaint in accordance with the Act; and
- (d) provide for a report that no further action be taken with respect to a matter under investigation where the Committee has been able to resolve the complaint through mediation in accordance with section 21.1.

Pre-hearing Conference

21.1(1) Following the investigation of a complaint and prior to the Discipline Committee hearing and determining a formal complaint, the Investigation Committee shall inform the Registrar who shall arrange for a pre-hearing conference before an independent mediator, and the parties including the member and a member of the Investigation Committee or its designate shall attend the pre-hearing conference before taking any further steps in the matter.

(2) After a pre-hearing conference:

- (a) the matter may go back to the Investigation Committee which will prepare a report pursuant to section 32(3)(b) of the Act; or
 - (b) the parties may continue with the conference; or
 - (c) the Investigation Committee shall refer the complaint to the Discipline Committee to hear and determine the formal complaint set out in the written report of the Investigation Committee.
- (3) Any party attending the pre-hearing conference may be accompanied by legal counsel.

Disclosure

21.2 A member, licensee, temporary licensee or holder of a certificate of authorization whose conduct is being investigated shall be afforded the right to be heard and to examine, at or before the mediation session, any written or documentary evidence relevant to the complaint.

Discipline Committee

22(1) The Discipline Committee that the Council is required to appoint pursuant to section 33 of the Act shall consist of at least nine members, in addition to the lay councillor who is required to be appointed by subsection 33(2) of the Act.

(2) The Discipline Committee shall select its chair and vice-chair.

(3) A person employed by the Association and assigned by the Executive Director shall serve as Secretary to the Discipline Committee and shall provide the committee with administrative support.

(4) When a complaint is referred to the Discipline Committee, the Chair of the committee shall designate a maximum of five members of the committee, including the lay councillor, as a panel to hear the complaint.

(5) The Discipline Committee shall publish any rules that it adopts in accordance with subsection 33(4) of the Act and shall ensure that the published document is publicly available on request and without charge.

Disposition on consent

22.1(1) A member whose conduct is the subject of a complaint to be heard before the Discipline Committee may admit the subject matter of the complaint and an agreed statement of the member's conduct shall be provided to the Committee by the prosecutor.

(2) The statement of the member's conduct submitted in accordance with subsection (1) is deemed to be an admission of the allegations of fact contained in it and that those facts constitute the professional misconduct or professional incompetence, as the case may be, as described in the complaint.

(3) On receipt of the statement of the member's conduct, the Discipline Committee shall confirm that the member's conduct constitutes professional misconduct or professional incompetence and shall receive evidence and argument as to the appropriate penalty from the prosecutor and the member.

Applications to review decisions of the investigation committee

23(1) For the purposes of subsection 32(7) of the Act, an application to review a recommendation of the investigation committee that no further action be taken in respect of a complaint concerning the conduct of a member must be made to the Council, within 30 days after a copy of the recommendation is served, by sending or delivering a written request in the form of a letter to the Council, which must be received in the Association's head office within that time, setting out the grounds on which the applicant alleges that the investigation committee's decision is in error, together with any documentation necessary to support the allegation.

(2) The Council shall provide an applicant for review with an opportunity to make a verbal presentation to the Council, if desired by the applicant, as soon as possible.

Discipline of former members

23.1 Subject to subsection 13(4), a person who ceases to be a member is subject to discipline in respect of his or her conduct while a member for a period of two years after the person ceases to be a member.

SEALS

Design

24 Seals must be designed in the forms set out in Appendix 2.

Manner of use

25 The member under whose direct technical supervision documents are prepared shall affix his or her seal in a prominent location on the document and shall sign and date it.

MISCELLANEOUS

Demand for special meeting

26 The number of members required to demand a special meeting of the Association to be held is 30.

Electronic service of notices

27(1) When a person has provided to the Registrar a facsimile number for the purpose of receiving notices, documents that are required or permitted by the Act

ENGINEERING AND GEOSCIENCE PROFESSIONS REGULATORY BYLAWS

and the bylaws to be served on or given to a person by facsimile, may be sent to the person at the facsimile number in the records of the Association.

(2) When a person has provided to the Registrar an electronic mail transmission address for the purpose of receiving notices, documents that are required or permitted by the Act and the bylaws to be served on or given to a person by electronic mail transmission, may be sent to the electronic mail transmission address in the records of the Association.

(3) If a notice is served by facsimile or by electronic mail transmission in accordance with subsection (1) or subsection (2), unless the contrary is proved, the service or receipt is presumed to be effected on the date on which the notice was transmitted.

27.1 Notwithstanding the notice provisions for the annual meeting set out in subsection 21(3) of *The Engineering and Geoscience Professions Administrative Bylaws, 1997*, any other notice required to be given pursuant to any other section of the Act, or *The Engineering and Geoscience Professions Regulatory Bylaws, 1997* or *The Engineering and Geoscience Professions Administrative Bylaws, 1997* may be effected by ordinary mail, or by facsimile or by electronic mail transmission to the address, facsimile number or electronic address shown in the records of the Association.

Liability insurance

28 Prior to providing professional engineering or professional geoscience services, a member or holder of a certificate of authorization shall notify the client, in writing, whether or not the member or holder has professional liability insurance that applies to those services.

Professional Liability Insurance Program

29(1) The Council may enter into a contract or contracts to provide all or any of its members with insurance with respect to professional liability claims.

(2) The premiums charges under any contract of insurance referred to in subsection (1) may be included with the fees of the members or may be by way of an additional annual fee.

(3) Any member who is already covered by the same contract of insurance for professional liability claims because of registration in another province or territory may provide proof of prior coverage and opt out of any subsection (1) contract and such member is not required to contribute to the association insurance assessment.

ENGINEERING AND GEOSCIENCE PROFESSIONS REGULATORY BYLAWS

APPENDIX 1 Application Form (attached) Certificate of Authorization (Section 18)



A P E G S

*Association of Professional Engineers
& Geoscientists of Saskatchewan*

*Suite 104, 2255 - 13th Avenue, Regina, Saskatchewan S4P 0V6
T (306) 525 9547 F (306) 525 0851 Toll Free: 1 800 500 9547
E-mail: apeg@apegs.sk.ca*

APPLICATION FOR A CERTIFICATE OF AUTHORIZATION

In Accordance with Section 22 of *The Engineering & Geoscience Professions Act* of Saskatchewan

This application must also be submitted by non-current renewals.
(A non-current renewal is an application by an entity which did not
hold a certificate of authorization in the preceding calendar year.)

A. REGISTERED BUSINESS NAME & ADDRESS

Name under which the applicant will carry on business under this certificate (name which is to appear on certificate and on seal for corporate practice):

Address of principal place at which engineering/geoscience professional services are provided:

Postal/Zip Code: Telephone: () Fax: ()

Saskatchewan Office: same as above ☐; or

Postal/Zip Code: Telephone: (306) Fax: (306)

Email:

B. LEGAL NAME

Registered name of corporation, partnership, or association of persons (applicant), if different than above:

Address of Registered Office, if different than either of the above:

C. LICENSEES

For the purposes of clauses 22(3)(a) and 22(4)(a) of *The Engineering and Geoscience Professions Act*, list below names of all Professional Engineers and Professional Geoscientists who are current employees of the Applicant and who will be in charge of professional engineering or professional geoscience on behalf of the Applicant. You may name a person(s) who is not a member/licensee of APEGS, provided you enter after their name the phrase "approval pending." Applicants that provide consulting engineering or consulting geoscience services, either directly or indirectly, must provide such services under the supervision of members who hold Permission to Consult.

Name	SK Registration Number	Date Permission Granted or Renewed	Approved Field
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.....			
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(PAGE 1 OF 2)

ENGINEERING AND GEOSCIENCE PROFESSIONS REGULATORY BYLAWS

D. OFFICIAL REPRESENTATIVES

Name(s) of official representative(s) whose duty it is to ensure that the Act and Bylaws are complied with by the Applicant as required by clause 22(4)(b) of *The Engineering and Geoscience Professions Act*. Each person named must sign opposite their name. Note that persons named must be members or licensees of APEGS, or they must have applied for such status.

Type or Print Name(s)

Signature(s)

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E. INFORMATION FOR CALCULATION OF ANNUAL DUES

Number of Professional Engineers and/or Professional Geoscientists currently employed by the Applicant (please include all persons who have, or you anticipate will have, professional registration in APEGS or equivalent organizations) _.

F. CERTIFICATION

I hereby certify all information in this application to be true and complete to the best of my knowledge, and that I have not withheld any information that may have a bearing upon the consideration of this application.

Authorized Signing Officer: Title:
(Print or Type Name)

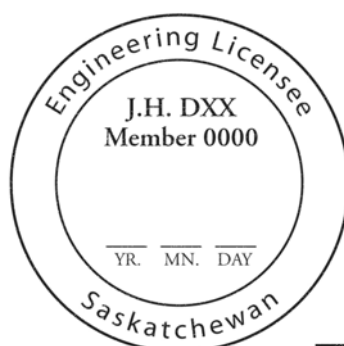
Signature: Date:

THIS APPLICATION MUST BE ACCOMPANIED BY:

1. the prescribed non-refundable application fee **prescribed by sub-section 28(1)(f) of The Engineering and Geoscience Professions Regulatory Bylaws, 1997 plus the applicable Goods and Services Tax (GST) or Harmonized Sales Tax (HST). GST #106733090**; and
2. a description of the professional services which the applicant intends to offer; and
3. in the case of a corporation a copy of the certificate of incorporation, and in the case of any other businesses a copy of the business name registration, or both.

APPENDIX 2

Forms of Seals
(Section 24)



Association of Professional Engineers & Geoscientists
of Saskatchewan

CERTIFICATE OF AUTHORIZATION

John DXX Inc.
Number C000

Permission to Consult held by:

Discipline	Sk. Reg. No.	Signature
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_____	_____	_____

APPENDIX 3

Components of Acceptable Engineering Work Experience

Work experience is an essential element in determining whether or not an individual is acceptable for professional licensing. The responsibility for providing the proper environment, opportunities, range and progression of activities necessary to meet the work experience requirements rests with the employers of applicants, and the individuals who provide supervision during the internship period. Acceptable engineering work experience must include the application of theory and should provide exposure to, or experience in the following broad areas: practical experience, management, communication, and the social implications of engineering. Assessment of the acceptability of the work experience is based on the extent to which the applicant's experience includes these areas, each of which is outlined in the following sections.

1) Application of Theory

- (A) analysis (for example: scope and operating conditions, feasibility assessment, safety and environmental issues, technology assessment, and economic assessment, etc.);
- (B) design and synthesis (for example: functionality or product specification, component selection, integration of components and subsystems into larger systems, reliability and maintenance factors, human and environmental aspects, and the societal implications of the product or process, etc);
- (C) testing methods (for example: devising testing methodology and techniques, functional specification verification, and new product or technology commissioning and assessment, etc.); and,
- (D) implementation methods (for example: technology application, engineering cost studies, optimization techniques, process flow and time studies, quality assurance implementation, cost/benefit analysis, safety and environmental issues and recommendations, and maintenance and replacement evaluation, etc.).

2) Practical Experience

- A) site visits to existing engineering works, with opportunities to see equipment and systems in both operational and maintenance circumstances;
- B) application of equipment as part of the larger system, including, for example, the merits of reliability, the role of computer software, and understanding the end product or engineering work in relationship to the equipment;
- C) opportunities to experience and understand the limitations of practical engineering and related human systems in achieving desired goals, including limitations of production methods, manufacturing tolerances, performance minima, maintenance philosophies, etc.; and,
- D) opportunities to experience the significance of time in the engineering process, including workflow, scheduling, equipment wear-out and replacement scheduling, etc.

3) Management of Engineering

- A) planning, from conception through to implementation. This includes: needs assessment, concept development, assessment of resources required, and assessment of impacts, including societal and project implementation;
- B) scheduling, from establishing interactions and constraints, developing activity or task schedules, and allocation of resources, through to the assessment of delay impacts and beyond to broader aspects, such as interactions with other projects and the marketplace;
- C) budgeting, including the development of preliminary and detailed budgets, identifying labour, materials and overhead, risk analysis, life-cycle analysis, and tracking;
- D) supervision, including leadership, professional conduct, organization of human resources, team building, and management of technology;
- E) project control, including co-ordination of work phases, tracking and monitoring costs and progress, and implementing changes to reflect actual progress and needs; and,
- F) risk-analysis related to operating equipment and system performance, product performance evaluation, and evaluation of societal and environmental impacts.

4) Social Implications of Engineering

- A) a recognition of the value and benefits of the engineering work to the public;
- B) an understanding of the safeguards required to protect the public and methods of mitigating adverse impacts;
- C) an understanding of the relationship between the engineering activity and the public;
- D) a demonstrated interest and involvement in the broader social implications of engineering;
- E) an appreciation of the role of regulatory bodies on the practice of engineering; and,
- F) an understanding of the provincial health and safety of the workplace legislation.

5) Communication Skills

- A) preparation of written work, including day-to-day correspondence, record- keeping, and report writing;
- B) making oral reports or presentations to colleagues, supervisors, senior management, and an exposure to, or participation in, reports to clients and regulators; and, d
- C) making public presentations.

APPENDIX 4

Components of Acceptable Geoscience Work Experience

The following criteria are designed to provide guidance to candidates, employers and supervisors with respect to the experience expected of a geoscientist-in-training applying for professional registration. Acceptable geoscience work experience must include the application of the knowledge of geoscience principles and practice and should provide exposure to, or experience in the following broad areas: management, communication, and the social implications of geoscience. Assessment of the acceptability of the work experience is based on the extent to which the applicant's experience includes these areas which are outlined in the following sections.

1) Application of the Knowledge of Geoscience Principles and Practice

The skillful application of geoscience knowledge is essential to earning professional registration and licensure. To be accepted, a candidate's experience shall include active and responsible participation in the following aspects of geoscience:

- a) geoscience training and familiarization;
- b) technical geoscience experience;
- c) development of geologic concepts (for example: preparation of reports concerning deposits of rocks, minerals or other naturally-occurring earth materials); and,
- d) mapping and systematic geoscience evaluation (with specific reference to bedrock, unconsolidated earth materials and/or snow, ice, groundwater, surface water and constituents thereof);
- e) identification of geologic hazards and risk to the public and the environment.

2) Management of Geoscience

Management in geoscience includes the supervision of staff, project leadership, budgeting and the socially responsible application of geoscientific principles and practices. Candidates must be able to document reasonable progression toward increasing management involvement and responsibility over time.

3) Social Implications of Geoscience

The practice of geoscience has significant impact on the public in the fields of public and environmental safety, industry, finance and education. Candidates should become aware of the geoscientist's role in society and the social impact of projects in which they are involved. They should understand the role of the geoscientist from these points of view including environmental, economic and the advancement of knowledge. The objective is to foster an awareness of the geoscientist's professional responsibility to guard against conditions which

threaten life, property or the environment and to call such conditions to the attention of those responsible.

4) Communication Skills

During the training period, candidates should be required to communicate effectively with superiors, co-workers, government regulators, clients and the general public. They should become proficient in the written and oral presentation of geoscience from daily record-keeping to major reports.

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