



APEGGA

*The Association of
Professional Engineers, Geologists
and Geophysicists of Alberta*

***Guideline for
Professional Practice
Management Plans***

v1.3

September 2006

FOREWORD

An APEGGA guideline presents procedures and practices that are recommended by APEGGA. In general, an APEGGA member should conform to the recommendations in order to be practising in accordance with what is deemed to be acceptable practice. Variations may be made to accommodate special circumstances if they do not detract from the intent of the guideline.

Guidelines use the word *should* to indicate that among several possibilities, one is recommended as particularly suitable without necessarily mentioning or excluding others; or that a certain course of action is preferred but not necessarily required; or that (in the negative form) a certain course of action is disapproved of but not prohibited (*Should equals is recommended that*). The word *shall* is used to indicate requirements that must be followed (*Shall equals is required to*). The word *may* is used to indicate a course of action permissible within the limits of the guideline (*May equals is permitted*).

Participants

APEGGA's Practice Standards Committee (PSC) publishes practice standards and guidelines to promote high levels of professional service. At the time the guideline was completed, the committee had the following membership:

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1 OVERVIEW

As of February 2003, section 48(1)(d) of the General Regulation under the Engineering, Geological and Geophysical Professions Act requires all APEGGA permit holders to develop and maintain a Professional Practice Management Plan (PPMP) that is appropriate to their practices.

A PPMP is a written description of corporate policies, procedures and systems used to ensure that appropriate standards of professional practice are maintained. It is a management tool that documents a permit holder's procedures for planning, implementing, documenting, and assessing the effectiveness of activities that constitute the organization's scope of practice.

If the public is to have confidence in the quality of the services of professional engineers, geologists and geophysicists, there needs to be a structured process in place for managing professional practice. As the regulator of the professions of engineering, geology and geophysics, one of APEGGA's roles is to maintain appropriate standards of professional practice with a view to protection of the public. The requirement for PPMPs is one means of fulfilling that role.

1.1 Scope

This is a guideline for the preparation of Professional Practice Management Plans by APEGGA permit holders. Recognizing that "one size doesn't fit all", it nevertheless pertains to all permit-holding entities, from incorporated sole-practitioners to multi-disciplinary corporations. The guideline addresses the development and content requirements for a PPMP, as befitting a permit holder's professional practice.

1.2 Purpose

This guideline is meant to assist APEGGA permit holders to prepare a PPMP that will satisfy the regulatory requirements. Its primary purpose is to describe what kind of information should generally be included in a PPMP. It is not intended to describe how a permit holder's practice should be managed specifically. However, Section 3 of this document gives the components of a PPMP, which may be used as an outline for permit holders to develop their own PPMPs. Ideally, this document will also be helpful to permit holders in considering how they manage their professional practices.

1.3 References

This guideline should be read in conjunction with the following documents (available online at <http://www.apegga.org/publications/guidelines.html>):

Practice Standard for Authenticating Professional Documents. APEGGA, 2002.

Guideline for Ethical Practice. APEGGA, 2003.

Guideline for Professionals Relying on Work of Others. APEGGA, 2003.

1.4 Definitions

For the purposes of this guideline, the following terms and definitions apply.

Act

The Engineering, Geological and Geophysical Professions Act of Alberta.

Association

The Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA).

COO or Authorized Designate

Chief Operating Officer or authorized designate, as named on the Permit for taking corporate responsibility for the organization.

Code of Ethics

APEGGA's Code of Ethics established pursuant to section 19(1)(j) of the *Engineering, Geological and Geophysical Professions Act*.

Due Diligence

The care that a reasonable person exercises under the circumstances to avoid harm to other persons or their property.

Organization

Permit holder.

Permit

The right to practice granted to a partnership, corporation or other entity that practices engineering, geology or geophysics in its own name pursuant to the *Engineering, Geological and Geophysical Professions Act*.

Permit Number

The number issued to a permit holder (a professional corporation, company, association, firm, partnership, society, organization, or other entity that practices engineering, geology or geophysics in its own name) pursuant to the *Engineering, Geological and Geophysical Professions Act*.

Professional Member

A professional engineer, professional geologist, professional geophysicist, registered professional technologist (engineering), registered professional technologist (geological), registered professional technologist (geophysical) or licensee entitled to engage in the practice of engineering, geology and geophysics under the Act.

Professional Practice Management Plan (PPMP)

A written description of a permit holder's corporate policies, procedures and systems used to ensure that appropriate standards of professional practice are maintained.

Regulations

Alberta Regulation 150/99 (Engineering, Geological and Geophysical Professions Act)
General Regulation

Responsible Member

A individual member who has undertaken to provide responsible direction and personal supervision to all or part of a Permit holder's professional practice and who has agreed to conduct the professional practice for which he or she has assumed responsibility in strict accordance with the requirements of relevant legislation and regulations.

2. GENERAL CONTENT AND DETAIL REQUIREMENTS

A PPMP does not need to be submitted to APEGGA for approval. However, PPMPs may be subject to review, either through a random selection process or as a result of a specific initiative. Issuance or renewal of an APEGGA permit may be conditional on an appropriate PPMP being in place.

Example PPMPs are provided in Appendix B for illustrative purposes only. As examples, they are not intended to be adopted without modification. Particularly in the case of larger permit holders, the examples will not adequately address the level of detail or all of the required elements expected in more complex organizations.

2.1 General Content

The PPMP should document the permit holder's management processes that are important to conducting a professional practice and assuring due diligence has been fulfilled. Specific PPMP content requirements are described in Section 3. Each permit holder should evaluate these requirements for applicability to its needs. If valid, the permit holder may use these components as section headings or as an outline in the development of its own PPMP.

A PPMP need not duplicate existing documentation. Supporting and/or more detailed documentation may be incorporated by reference (i.e., existing loss control plan, risk management program, or formal quality management plan like ISO 9001/12001) and need not be rewritten or summarized for inclusion in the PPMP.

2.2 Level of Detail

The PPMP should describe the processes that are designed to support the objectives of the organization. The level of effort expended to develop a PPMP should be based on the scope of its professional practice. A PPMP would vary considerably in complexity, degree of detail and specific content depending on the size and nature of the

professional organization. For example, consulting and operating companies will have different needs.

The PPMP should be sufficiently inclusive, explicit, and readable to enable both management and staff to understand the priority which management places on quality practice management activities, the established quality policies and procedures, and their respective quality-related roles and responsibilities.

The PPMP should be written so that an assessment of the suitability and effectiveness of the organization's professional practice management system can be accomplished. Such assessments will enable management to determine if the professional practice management system meets the needs of the organization.

The PPMP should be focused on the processes and procedures used to plan, implement, and assess the programs to which it is applied, and should include definitions of appropriate authorities and responsibilities for managers, responsible members and staff.

2.3 PPMP Preparation

The organization's responsible members are responsible for assuring the preparation of a PPMP covers the scope of professional practice undertaken by the organization. They, along with the senior management who are accountable for overall operations of the organization, are responsible for ensuring that the PPMP is prepared, and that the procedures documented in the Plan are appropriate and recognize all regulatory requirements that may apply to the organization's professional work. It is essential that all management and professional levels understand fully the content of the Plan and concur with its implementation.

The Plan shall be approved by the COO or authorized designate (as indicated on the permit application) and signed by one or more responsible members of the organization who have the authority to represent the permit holder in this regard. This will certify that the organization has conducted an internal review of the Plan and that management has concurred with its contents.

2.4 PPMP Revisions

Each permit holder should review its Plan at least annually to verify its suitability and effectiveness. The process of developing, annually reviewing and revising (as needed) the Plan enables the organization to clarify roles and responsibilities, examine areas of concern, and implement changes. Having a current Plan is an important part in effectively managing a professional practice.

Those people in the organization that are affected by the scope of the PPMP should be kept aware of revised procedures.

3 ELEMENTS OF A PROFESSIONAL PRACTICE MANAGEMENT PLAN

As a minimum, a PPMP shall address the following:

- Management, Organization, and Responsibilities – ensuring that it is conducive to professional practice
- Ethical Standards - ensuring that the professional practice of the organization is defined, communicated, and implemented in accordance with the Code of Ethics and that due diligence is fulfilled.
- Professional and Technical Resources - ensuring that the work is carried out by appropriately qualified professionals and that appropriate technical facilities and resources are maintained, communicated, and available - commensurate with the professional services being provided. This would include items such as establishing clear lines of professional responsibility, assignment of appropriately skilled staff, and continuing competence of professionals.
- Quality Control - ensuring that the permit holder has adequate supervision and controls of all the professional work to ensure that it is done competently and with due diligence. It may include: definition of project scope and objectives, use of codes and standards, checking work for accuracy, independent reviews, conformance with current acceptable professional practices, coordination of multi-disciplinary teams, and possible presence of a formal quality management plan.
- Professional Documents and Records - ensuring that appropriate and sufficient records are produced, maintained, and available as required.

3.1 Management, Organization and Responsibilities

The Plan should document the overall policy, scope, applicability and management responsibilities of the permit holder's professional practice management process. The PPMP should include the following:

- A statement of the permit holder's policy on professional practice management including the importance of professional practice management procedures to the organization and why.
- Identification of the COO or authorized designate who is responsible for the permit and a discussion of the authorities of the organization's responsible members.
- An organizational structure including lines of authority and communication. Alternative organizational arrangements established for special projects, such as reference to required Project Execution Plan.
- Lines of technical responsibility from Chief Operating Officer and/or Responsible Member down through the organization to Members in Training and Technologists.

3.2 Ethical Standards

All APEGGA members are responsible and accountable for practicing in a professional manner - ethically, competently and in compliance with the *Engineering, Geological and Geophysical Professions Act*. Permit holders are further obligated to provide an environment that ensures the appropriate standards of professional conduct and technical competency are maintained and to support professional employees in discharging their legal and ethical duties under the EGGP Act.

APEGGA members have an obligation to practice their professions in accordance with the Code of Ethics. APEGGA's *Guideline for Ethical Practice* provides an amplification and interpretation of the Code of Ethics, complete with illustrative case studies.

A written commitment to the standards of professional conduct prescribed in the Code of Ethics should preface a Professional Practice Management Plan. This commitment becomes intrinsic to all policies, procedures, and systems addressed in the PPMP.

3.3 Professional and Technical Resources

3.3.1 Professional Resources and Responsibilities

Maintenance of professional resources and technical staff is the responsibility of the permit holder and is directly related to ensuring a properly managed practice. The PPMP should document the procedures for assuring that the personnel performing professional work for an organization have the necessary qualifications to effectively accomplish their work. The Plan should include an account of the following:

- Policies on hiring (i.e., personnel must be qualified and competent).
- Inventory of expertise/competencies available to conduct the work of an organization and provision of supervision, where required. Job descriptions including areas of special expertise and registration requirements for engineers, geologists, geophysicists, and registered professional technologists engaging in the practice of their respective professions. Assurance of appropriate technical and other staff support.
- Policies and procedures for reviewing and authenticating work completed by others to ensure that all safety, regulatory, and due diligence issues are addressed; especially work substantially completed outside of Alberta or without the direct supervision of the professional who is assuming professional responsibility for such work.
- Methods of assessing and reviewing employees' skills including an annual review of Continuing Professional Development submissions and/or formal performance reviews. Training plans for professionals (professional development plans) to maintain and develop competencies including formal and informal training, direct supervision, ongoing communications in work procedures, policies, standards, and specifications.

3.3.2 Technical Facilities and Resources

Necessary and appropriate technical facilities and resources must be maintained, communicated, and available to professional members so they are able to adequately perform the professional services offered by the permit holder. The PPMP should generally describe the available technical facilities and resources, such as:

- Reference materials (e.g., relevant current codes and standards, technical journals, operating manuals, including new/revised APEGGA guidelines).
- Standard company contract forms and general conditions of contracts - subject to professional and legal reviews on a regular basis.
- Information Technology policy, if available.
- Appropriate computer hardware and software with adequate number of licenses.
- Necessary laboratory or testing equipment.

3.4 Quality Control

Quality Control is ensuring that the permit holder has adequate supervision and controls of all the professional work it produces. In the context of professional practice by APEGGA permit holders, quality control is concerned with providing conditions conducive to professional practice and maintaining appropriate quality standards. Where appropriate, the PPMP should describe the following:

Professional Business Practices

- Corporate strategy - objectives, purposes, goals, internal/external clients, and major policies stated so as to define the business of the permit holder.
- Policies and procedures on handling confidential materials.
- Policies and procedures on dispute/conflict resolution between professionals and with clients.
- Policies on advertising and corporate promotion.
- Policies on handling intellectual property.
- Policies/guidelines on conflict of interest including the handling of obligating gratuities.
- Methods of negotiating and contracting professional services, including sample contracts.
- Methods of co-ordination of multi-disciplinary teams and teamwork.

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- Description of resident Loss Control and Risk Management programs or formal quality management plan (e.g. ISO 9001, 12001).

Technical Work

- Due diligence requirements for relying on work by others ¹ including procedures for assuring that technical work is done competently, with due diligence, and in accordance with applicable codes, standards, and specified design requirements.
- Training in and use of all applicable codes, standards, regulations and other relevant documents and techniques.
- Methods of documenting assumptions, reviewing the operation and limitations of computer programs, verifying the results obtained from computer software, training for users of equipment and software.
- Appropriate independent checks and documentation of concepts, processes and procedures.

Project Management

- Procedures for preparing cost estimates and tracking expenditure commitments.
- Project management systems defining the organizational structure, lines of communication, project scope and quality management system, definition of deliverables, provision of appropriate professional expertise; development of work plan, budget and schedules; implementation of the assignment; documenting and distributing change orders and modifications to contracts; project close-out.
- Procedures for handling change requests, change orders, progress payment processing, shop drawing reviews and other documentation.
- Qualified personnel conducting field reviews of projects during construction (subject to scope of services agreed to with client).

Outsourced Professional Work

Outsourced professional work is defined here as engineering, geology or geophysics obtained from sources that are external to the permit holder's organizational unit requiring the work. The work could be outsourced to a local (Alberta) organization, to a permit holder's office in another province or in the United States, or to an overseas subcontractor. Outsourced work includes "offshore" work, here meaning professional work obtained from another country, usually overseas.

- Permit holders that rely on outsourced professional work should include a section in their PPMPs that addresses their procedures for quality assurance and control of

¹ *Guideline for Professionals Relying on Work of Others.* APEGGA, 2003.

such work. Those procedures should include an audit trail of deficiencies found and corrected.

3.5 Professional Documents and Records

The PPMP should address appropriate controls for the development and handling of documents of a professional nature.

The Plan should describe or reference the procedure(s), including the roles, responsibilities and authorities of senior management, responsible members and professional staff and support personnel, for the following:

- Identifying the organization's professional documents requiring controls (printed and electronic). Depending on the scope of practice, documents may include contracts, investigations, reports, designs and design changes, recommendations, field reviews, and certifications.
- Preparing, reviewing, approving, issuing, using and revising document and records.
- Determining responsibility for authentication (sealing, signing and dating) professional documents.
- Managing and maintaining documents and records including, transmittal, retention (including retention times), access, protection (from loss, damage and deterioration), retrieval, and disposal.
- Ensuring compliance with applicable regulatory codes, standards, etc.
- Recording communications.

APPENDIX A – ADDITIONAL REFERENCES AND RESOURCES

A-1 APEGGA SELECTED PUBLICATIONS

Engineering, Geological and Geophysical Professions Act, Regulations and Bylaws (including Code of Ethics). APEGGA, 2003.

The Concepts of Professionalism. APEGGA, 1988

The Practice of the Professions of Geology and Geophysics, 2nd Edition. APEGGA, 1990.

The Practice and Regulation of Engineering, Geology & Geophysics – A Position Paper. APEGGA, 1995.

Professional Development: A Guideline for Members-in-Training, Examination Candidates, Students and Applicants. APEGGA, 1999.

Continuing Professional Development – A Guideline for Professional Members. APEGGA, 1997.

Mentoring: A Guideline for Members-in-Training and Professional Members. APEGGA, 2003.

Human Rights Issues in Professional Practice, A Guideline. APEGGA, 1997.

Professional Practice – A Guideline. APEGGA, 1994.

Environmental Practice – A Guideline. APEGGA, 1994.

Advertising of Professional Services – A Guideline. APEGGA, 1996.

Selecting Engineering, Geological and Geophysical Firms – A Guideline. APEGGA, 1997.

Illegal Copying & Use of Computer Software – A Guideline. APEGGA, 1990.

A-2 BOOKS

Andrews, G.C. and J.D. Kemper (1999) *Canadian Professional Engineering Practice and Ethics, 2nd edition.* Harcourt, Brace & Company, Toronto.

Unger, S.H. (1994) *Controlling Technology: Ethics and the Responsible Engineer, 2nd edition.* Wiley, New York.

APPENDIX B – EXAMPLES

The example Professional Practice Management Plans that follow are provided for illustrative purposes only. As examples, they are not intended to be adopted without modification. Particularly in the case of larger permit holders, the examples will not adequately address the level of detail or all of the required elements expected for more complex organizations.

Sections 2 and 3 of this guideline provide information regarding the elements of a PPMP and the content and detail requirements.

Individual Consulting Ltd.

Professional Practice Management Plan

1. Introduction

The General Regulation under the *Engineering, Geological and Geophysical Professions Act* requires an APEGGA permit holder to have in place, and follow, a professional management plan that is appropriate to its practice. Individual Consulting Ltd. (the "Company") has prepared this plan to satisfy that requirement, following APEGGA's guideline and recognizing that not all of the elements outlined in the guideline apply to a one-person engineering consultancy. Essentially, the plan is an operations manual that describes the procedures the Company follows to manage its professional practice.

1.1 Ethical Standards

The Company is committed to conducting its practice in accordance with the standards of ethical behaviour as described in APEGGA's *Guideline for Ethical Practice*. Ethical conduct shall be observed in all professional work and, more generally, in any public forum. This shall also apply where the work is carried out in jurisdictions outside of Alberta or Canada. In addition, local standards, human rights codes, sensitivities and practices, including linguistic and cultural shall be observed. Courtesy and politeness shall be the rule.

1.2 Policy on Professional Practice Management

The objectives of the Company's professional practice management program are:

- to maintain high levels of technical competence and professionalism;
- to ensure a consistency of performance;
- to acquire additional skills and knowledge as required;
- to ensure compliance with all applicable standards and guidelines as well as with all regulatory, legal and contractual obligations;
- to identify lines of professional responsibility and establish reporting procedures.

2. Management, Organization and Responsibilities

2.1 Scope of Practice

The Company has two main areas of expertise -- microbiology and the dynamics of rotating machinery. The latter comprises the bulk of the consulting work carried on by the Company and is the focus of this document.

Engineering Consulting

The Company offers mechanical engineering consulting services to industry, primarily petrochemical, oil and power generation, in the diagnosis of rotating machinery dynamics problems. This involves field measurement, typically, but not limited to, vibration and pulsation measurement during steady-state or transient operating conditions. It can also involve mechanical natural frequency testing. Analysis of these data involves the use of modern signal analysis techniques in the time and frequency domain as well as knowledge of machinery operating principles and dynamics in order to produce recommendations to the client.

Field Work

The field work involves the use of complex electronic instrumentation and numerous accessories as well as a portable computer with specialized software. It also involves significant travel, sometimes internationally. This requires careful attention to the logistics of travel with such equipment and to regulations concerning crossing borders with such equipment for consulting purposes.

2.2 Organizational Structure

Individual Consulting Ltd. is incorporated under the Business Corporations Act of the Province of Alberta. The Company holds Permit # P-XXXX to engage in the practice of engineering.

The Company's staff consists of two individuals: John Doe, P.Eng., who performs all engineering work, and Jane Doe, a microbiology consulting scientist who performs work that does not involve engineering, geology or geophysics.

2.3 Chief Operating Officer/Responsible Member

The Company's president, John Doe, P.Eng., is the Chief Operating Officer and the Responsible Member for the engineering practice.

3. Professional and Technical Resources

3.1 Professional Resources

John Doe holds bachelor's and master's degrees in mechanical engineering from the University of Calgary as well as a doctorate degree in engineering mechanics from the University of Alberta. His experience includes 30 years in positions of increasing responsibility in machine design with Major Manufacturing Co. Ltd. prior to establishing Individual Consulting Ltd.

3.2 Technical Facilities and Resources

Reference Materials/Policies

- A library of technical books shall be maintained and added to as appropriate texts become available.
- Subscriptions to suitable trade magazines shall be maintained.
- An external reader membership shall be maintained at the University of Alberta technical library.
- Active membership of the Canadian Machinery Vibration Association and / or other industry associations shall be maintained in order to exchange information with others in the industry.
- Where additional required expertise is identified, a suitable course shall be attended or appropriate materials acquired for private study.
- The technical software necessary for the work shall be maintained as up-to-date as is necessary. This means that where good technical improvements are made to the software that up-grading be seriously considered but that cosmetic changes need not necessarily be acquired.
- Only duly licensed software shall be used.
- A collection of industry “Standards” such as API, CSA, ISO shall be kept or access to these (U of A Library) maintained.

Field Testing Equipment

- All field equipment shall be maintained in a good state of repair.
- Field cables and connectors shall be cleaned and carefully coiled after a field trip.
- Transducers shall be kept clean and their calibration shall be verified either by use of an electrodynamic shaker (vibration transducers) or by an external calibration service provider every two years.
- Signal analyzers shall be calibrated either by the use of a known input function over an appropriate amplitude and frequency range or by an external calibration service provider.

4. Quality Control

4.1 Project Management

Projects shall be confirmed by written contracts clearly outlining the scope of work and fee compensation. Minor projects may be confirmed by simple letter agreements outlining scope of work and fees.

4.2 Reporting Procedure

Generally the field work requires on-site consultations with the client and an interim field report. The field report may, of necessity be verbal, to be followed within one or two days by a short final report or preliminary report with a final report to follow. The final report should generally not take more than a week to be sent unless there are further tests following the Interim Report. A draft final report may be sent (e.g. by e-mail) prior to finalization of the report. The emphasis is to get the data and conclusions to the client expeditiously but with care.

As there are often choices to be made and possibilities to eliminate, the final report can be regarded as a collaborative document between consultant and client. This does not mean that any conclusions are compromised but that feasible choices and directions to proceed are reasonable and practicable. However, if the client decides to proceed in a manner not recommended, it shall be made clear to the client that this is not a recommended procedure.

5. Professional Documents and Records

5.1 Managing and Maintaining Documents and Records

- Copies of final reports shall be kept in hard copy form for 10 years. For reports that are issued to the client in electronic form only, a hard copy shall be kept on file for 10 years. An electronic copy of all final reports shall be kept on file for 2 years with a backup copy on a separate mass storage device (e.g. a compact disk).
- Electronic data (e.g. “hex”, “uff” or “uda” files) that can only be reduced by the appropriate software shall be kept on file for at least 1 year with a backup on a second mass-storage device.
- Copies of records of communication including e-mails shall be maintained for at least 2 years.
- A file of calibration sheets for all instrumentation shall be maintained.
- A file of all instruments’ specifications and manuals shall be maintained.

- All electrical codes shall be observed when installing electronic equipment.

5.2 Stamps and Signatures

- John Doe's "Professional Engineer Alberta" (P.Eng.) stamp, signed and dated, shall be used to authenticate all final reports of an engineering nature in accordance with APEGGA's *Practice Standard for Authenticating Professional Documents*.
- The APEGGA permit number shall be placed on final reports. The use of the Permit to Practice stamp is optional, but if it is used, it shall be signed by John Doe, as the Company's responsible member.
- An electronic stamp and signature is acceptable on a final report where an electronic version is e-mailed. The practices outlined in APEGGA's *Practice Standard for Authenticating Professional Documents* shall be followed.

Dated April 19, 2004

John Doe

John Doe, P.Eng.
President and Responsible Member

Professional Practice Management Plan

ABC Engineering

1 INTRODUCTION

Changes to Section 48(1)(c) of the General Regulations under the Engineering, Geological, and Geophysical Professions Act requires all APEGGA permit holders to develop and maintain a Professional Practice Management Plan (PPMP) that is appropriate to its professional practice.

This PPMP specifies responsibilities and authority of personnel as they relate to professional practice. The programs outlined in this plan and the referenced procedures are intended to ensure that the public interest is considered and kept paramount in the Company's professional activities. All professional staff, professional contractors or consulting companies of the company will be mandated to be knowledgeable of the PPMP or have one of their own.

To implement this policy, it is the objective of ABC Engineering to establish and maintain an effective and efficient PPMP and regularly review its effectiveness. The PPMP is intended as a living document that requires regular review and updating.

Acceptance of the principles and obligations contained in the PPMP is acknowledged by endorsement:

COO & Responsible Member: _____ Dated _____
Ben Brown, P.Eng.

1.1 Statement on Ethics

We believe that good ethical practice is reciprocated and leads to successful and rewarding businesses. We will strive to uphold the professional nature of the engineering profession and work within the guidelines presented in the Code of Ethics, APEGGA's Guideline for Ethical Practice, and common courtesy.

ABC Engineering shall endeavor to conduct its business and professional practice in a manner that reinforces the fundamental canons of ethical conduct respecting public safety, competency, integrity, rule of law, and the dignity of the profession.

To assist in maintaining ethical standards in the day to day activities of the company's professional work, the checklist in Appendix A and B will be used.

1.3 References

The following references were used in the preparation of the PPMP. Latest versions shall be referred to in the day to day activities of the professionals in the company.

- *Guideline for Professional Practice Management Plans*, APEGGA, October 2003
- *Guideline for Ethical Practice*, APEGGA, March 2003
- *Practice Standard for Authenticating Professional Documents*, APEGGA, April 2002.
- *Guideline for Relying on Work Prepared by Others*, APEGGA, June 2003.
- *The Engineering, Geological and Geophysical Professions Act, Regulations and By-Laws*, April 2003.
- *The Concepts of Professionalism*, APEGGA, 1988.
- *Management of Risk in Professional Practice*, APEGGA, May 1989.
- *Advertising of Professional Services*, APEGGA, September 1996.
- *Quality Manual*, QAM-1, Feb 13, 2003.
- *Safety Manual*, ABC Engineering, Version 3.
- *Field Testing Manual*, ABC Engineering, Version 2.

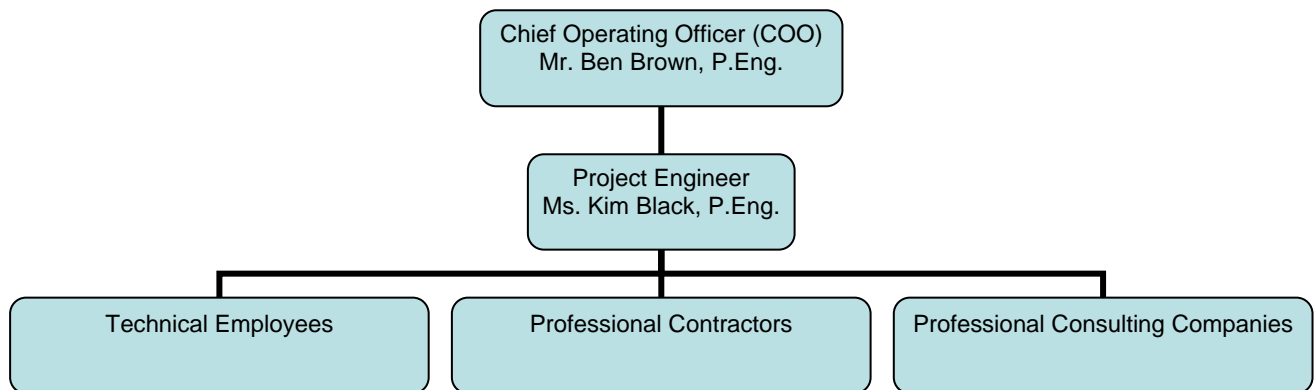
2 MANAGEMENT, ORGANIZATION AND RESPONSIBILITIES

2.1 Scope of Practice

The company is primarily involved in the technical support of sophisticated electronic monitoring equipment for mechanical and electrical systems for use by industrial operations. The company is also involved in cost estimates, construction assistance, commissioning expertise, and field installations of these systems.

2.2 Chief Operating Officer

Mr. Ben Brown, P.Eng., is the Chief Operating Officer, President, and the Responsible Member for the practice. Ms. Kim Black, P.Eng., is the Project Engineer.



The organization shall be generally structured as shown above. Directions and communications on the PPMP shall flow downwards.

3 PROFESSIONAL AND TECHNICAL RESOURCES

3.1 Professional Resources

Mr. Ben Brown, P.Eng., is the Chief Operating Officer, President, and the Responsible Member. He is technically competent in all areas of the practice, having worked with electronic monitoring equipment for industrial applications, since his graduation from Mechanical Engineering in 1978.

Ms. Kim Black, P.Eng., has 12 years experience in computer process control and has been with ABC Engineering, since 2000. ABC Engineering also has seven technologists providing support in design, drafting, estimating, and field inspections. The company also has two administrative assistants to provide office support. Contractors and Subconsultants are retained on an 'as-needed' basis, depending on the scope of projects.

Hiring

The company shall assess the skill levels required for staff and/or contract positions and hire or engage only qualified personnel as may be verified (copy of current resume, interview, past experience with the individual or a reference from a reliable source, verification of good standing with APEGGA). Skill levels shall be determined on the basis of responsibility, education and/or training requirements, including, where applicable, professional status. The company shall observe fair hiring practices and shall not discriminate on the basis of race, gender, age, religion or disability.

Job descriptions will be as defined on the employee/contractor contracts.

Performance Reviews

The company shall maintain as part of its PPMP documentation the curricula vitae (c.v.) for all professional and technical staff or contract personnel. Each c.v. shall be reviewed and updated on a regular basis, but not less than annually. The company shall encourage, within reasonable limits, participation in professional development activities.

The company shall maintain a system of employee evaluation that addresses technical skills, professional development, requirements for continuing education, and the appropriate level of responsibility. Employee evaluations shall be treated as confidential; however, a record of the evaluations having been completed shall be included with the PPMP documentation.

Review of Work by Others

Reviewing and authenticating work completed by others (i.e. other consulting companies) will follow these PPMP guidelines as per other professional work projects.

4 Technical Facilities and Resources

ABC Engineering shall endeavor to maintain adequate resources for use by professional and technical staff in performing their duties, in accordance with recognized codes and standards.

The company shall maintain a library having at least one copy each of: relevant and current codes, standards, regulations, technical journals, APEGGA guidelines appropriate to its scope of practice. The library materials shall be catalogued which shall be reviewed on a regular basis and reference materials updated accordingly. The latest versions shall be used and made available by either procuring the reference material or identification of validated websites (i.e. www.apegga.org, www.safetycodes.ab.ca,...) that maintain the latest versions of their publications. A copy of the catalogue and record of review shall be included with the PPMP documentation.

The company shall have standard contract forms available for project managers undertaking professional work. Contract examples are available on company server under ETIServer: Commercial/Agreements and Contracts. . The contract forms are to assist the project engineer and client in ensuring scope of work, responsibilities and fees are understood.

The computer systems and software used for professional related work shall be suitable for the activities being performed. Valid licenses for users shall be maintained.

Laboratory and testing equipment used for professional related work shall be suitable for the activities being performed and kept in good repair, according to ABC Engineering's Field Testing Manual.

5 QUALITY CONTROL

5.1 Professional Business Practices

It is the objective of this Company to establish and maintain an effective and efficient Quality Program planned and developed in conjunction with all Management Functions. This is one way to help ensure the overall company purpose of developing a respectable and successful business.

- The company shall respect client confidentiality and all client information shall be treated as the confidential property of the client. The company shall ensure that any information acquired with respect to the business and affairs of the client shall be used solely for the benefit of that client. Confidentiality agreements are to be included in all employee, contractor and consulting firm contracts.
- Intellectual property relating to project services that resides with the client prior to engagement remains the property of the client. Intellectual property relating to project services that resides with the company prior to engagement remains the property of the company. New intellectual property arising from and due the project serves are the property of the company, unless otherwise specified in the contract.

- The company recognizes the potential for disputes or conflicts of interest and supports a proactive approach to identify and resolve contentious issues at the earliest stages. Resolution of disputes or conflicts between professionals and clients shall be handled in the most appropriate and professional ways. Mechanisms for dispute resolution include, in order of preference: negotiation, conciliation, mediation, arbitration, and litigation. Conflict of interest situations shall be avoided by all professional employees and contractors in the company. In the event of a conflict of interest, the RM shall review and handle in the most suitable and ethical manner.
- The company supports education and technical events within its field of practice and through that involvement, received recognition for its participation and/or sponsorship. The company does not advertise or solicit new business at the expense of its competitors. The company shall refer to APEGGA's guideline on advertising of professional services for promotional materials.
- Professional Services shall be negotiated with clients/customers in a professional manner. Contracts shall clearly document the fees and scope of services. .
- Multidiscipline project teams shall have an organization chart developed showing the lines of communication and responsibility. Unless otherwise specified in a project execution plan, the RM shall be responsible for the quality control of the professional work.

5.2 Technical Work

The company shall maintain a system of quality control that ensures all work being performed is properly defined, is undertaken by competent personnel, meets applicable codes and standards, provides for adequate oversight and checking, and specified requirements for documentation.

For each project or professional service undertaken by the Company, the quality control process shall include:

- Assign project file and record entry into project log.
- Prepare detailed description of project, assess goals and define or record deliverables.
- Assess level of complexity, assign qualified personnel, and allocate adequate resources.
- Determine input requirements, including applicable codes, standards, and regulations, and prepare sequence of tasks or events.
- Specify requirements or document control.
- Undertake review(s), including client input as may be required by contract or project task, to ensure that deliverables are satisfied.
- Where possible, design parameters, calculations and code requirements shall be validated through a separate review process. Detailed review may be performed by the originating professional or an independent checker. Level of review for the professional

work shall be defined by the RM. Once the professional work is reviewed and stamped (if required), the APEGGA permit number will be applied to the document. APEGGA's Practice Standard for Authenticating Professional Documents will be used to determine authentication requirements.

- Computer programs, spreadsheets and calculation methods used in professional work shall be verified using either detailed review or secondary calculations methods. The RM shall ensure professionals are using only verified tools.

5.3 Project Management

- The project engineer is responsible for preparing and tracking project costs, schedules, and completion using suitable methods to both the client and company.
- On multidiscipline projects, a project execution plan (see Appendix C) shall be completed to identify the project management systems being used including: organizational structure, communication plan, project scope, quality management plan, deliverables, professional expertise, execution strategy, budget, schedules, change control and close out. Small, single discipline projects will be managed by the project engineer as suitable to both the client and company.
- Procedures for handling change requests, payment progressing, drawing reviews and other client correspondence will be the responsibility of the project engineer and identified on the project execution plan.

6 PROFESSIONAL DOCUMENTS AND RECORDS

6.1 Document Policy

ABC Engineering shall ensure all professional documents are handled with the appropriate controls to maintain accuracy and completeness. Professional and technical staff are responsible to prepare the documents in accordance with procedures identified for the project.

- Both electronic and paper documentation are to be kept and filed in the project folders. Documents may be stored either electronically or via hardcopy and shall be maintained for a period of no less than 10 years.
- Computer systems shall be on a scheduled back up procedure with offsite storage of backups. The COO shall determine the most appropriate schedule for system backups.
- Professional documents shall list the relevant regulatory codes, standards as applicable. In addition, assumptions made to complete the work should be listed on the document or otherwise noted in the project files.

- Communications with regards to professional work (including emails) shall be recorded and filed in the project files. Verbal communications should be noted and a record of conversation placed in the project file.

6.2 Professional Documents Requiring Authentication

The following are professional documents requiring controls. Authentication (sealing, signing, and dating) and the permit number are required on the documents if noted.

Plans, drawings, detailed drawings - Each sheet in a set of drawings shall be authenticated.

Reports - A report may be authenticated by authenticating the cover page at the front or the signature page at the end of the report.

Specifications - Specifications that are separate from related project documents should clearly refer to the related documents and shall be authenticated.

Reviewed Documents - A professional member who has thoroughly reviewed and accepts responsibility for a professional document prepared by another person shall authenticate the document.

APPENDIX A – PROJECT ETHICS CHECKLIST

The company shall uphold the Code of Ethics in its undertaking of professional work. The following checklist will be completed prior to professional projects to highlight any professional concerns. If concerns are raised, the RM must be notified for any further work to proceed. References listed in Section 1.3 of the PPMP are to be used in evaluating checklist items.

#1 Rule of Conduct: “Professional engineers, geologists and geophysicists shall, in their areas of practice, hold paramount the health, safety and welfare of the public and have regard for the environment.”

Does the project have detrimental affects on health safety or welfare of the public? Yes
No

Comments:

#2 Rule of Conduct: “Professional engineers, geologists and geophysicists shall undertake only work that they are competent to perform by virtue of their training and experience.”

Is the work within the scope of practice of the company? Yes No

Does the company have professional staff with training and experience in the professional work being undertaken? Yes No

Is the company sub-contracting the professional work to a company with the necessary training and experience? Yes No

Comments:

#3 Rule of Conduct: “Professional engineers, geologists and geophysicists shall comply with the applicable statutes, regulations and bylaws in their professional practice.”

What are the relevant statutes, regulations and bylaws for the project?

APPENDIX B –ETHICS REVIEW CHECKLIST

The following checklist will be completed by the RM(s) at intervals suitable to the professional work but no less than once per year during permit renewal.

#1 Rule of Conduct: “Professional engineers, geologists and geophysicists shall conduct themselves with integrity, honesty, fairness and objectivity in their professional activities.”

Have the professional members involved in the firm conducted themselves with integrity, honesty, fairness and objectivity in their professional activities? ___Yes ___No

Comments:

#2 Rule of Conduct: “Professional engineers, geologists and geophysicists shall uphold and enhance the honour, dignity and reputation of their professions and thus the ability of the professions to serve the public interest.”

Have the professional members involved in the firm upheld the honour, dignity and reputation of their professions? ___Yes ___No

Comments:

APPENDIX C – PROJECT EXECUTION PLAN

Job

Number: _____ Project Name: _____

Project Manager: _____ Project Engineer: _____

Signature _____ Signature: _____

Project Description (What, Who, Why):	<input type="checkbox"/> See attached
Organizational Structure:	<input type="checkbox"/> See attached
Execution Strategy:	<input type="checkbox"/> See attached
Deliverables/Budget:	<input type="checkbox"/> See attached
Communication Plan (Change Central):	<input type="checkbox"/> See attached
Schedule:	<input type="checkbox"/> See attached
Procurement Plan:	<input type="checkbox"/> See attached
Quality Management Plan:	<input type="checkbox"/> See attached
Professional Expertise:	<input type="checkbox"/> See attached