



Guideline for Ethical Practice
v2.2

February 2013

The Association of Professional
Engineers and Geoscientists of Alberta

FOREWORD

This guideline is a revision of the *Manual of Professional Practice Under the Code of Ethics*, December 1995. This version of the manual differs in that it recognizes the Code of Ethics has been modified so that it now consists of five rules compared with the previous eleven. The revised Code was adopted by the APEGA membership at the April 28, 2000 Annual General Meeting and subsequently incorporated into the Regulations under the *Engineering, Geological and Geophysical Professions Act* in February 2003. Material from the earlier manual has been modified, reorganized and supplemented with new text and case studies.

The earlier version and subsequent revisions were prepared by subcommittees of APEGA's Practice Standards Committee. The subcommittee that prepared the current version of the Code and guideline in 2003 consisted of the following individuals:

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This 2013 revision reflects changes to the name of the Association and the governing legislation that became effective in 2012.

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1. OVERVIEW

This guideline is divided into four sections followed by four appendices. This first section outlines the scope of the guideline and the purpose behind the Code of Ethics. The second section provides a perspective on the meaning of a profession and a discussion on ethics and excellence in general. The third section presents the Code of Ethics itself, as it appears in the Schedule to the *Engineering and Geoscience Professions Regulation* under the *Engineering and Geoscience Professions Act*. Section 4 presents the five rules of conduct individually with commentary and case studies for each. Finally, the appendices present relevant sections of the Act and Regulations, identify some helpful references, briefly outline APEGA's discipline process and present a brief history of the development of the Code of Ethics.

In the technical challenges faced by professional engineers and geoscientists, there are often no “cookbook” solutions to ethical challenges. Judgement is required. Often there is need to reflect carefully on how an action may affect or be perceived by third parties or by the public. This guideline illustrates how competent and diligent professionals might formulate such judgements in a manner consistent with the values and standards of their peers. Additional guidance and reality checks can also be gained by discussion with respected mentors or peers or by consulting the ethics resources.

1.1 Scope

This guideline, through commentary and examples, illustrates how the fundamental principles of ethical conduct, as summarized by the rules in the Code of Ethics, may be interpreted and applied to the diversity of circumstances faced by professionals in their daily work. For the sake of brevity, the rules under the Code of Ethics refer to “professional engineers and geoscientists”. Nevertheless, the Code applies to all professional members, licensees, permit holders, certificate holders and members-in-training, as noted in the *Act*.

1.2 Purpose

The APEGA Code of Ethics serves several purposes. When taken as a whole, it provides a vision of service to society to which professionals should aspire. It outlines the fundamental principles underpinning the rules of professional conduct expected of engineers and geoscientists. It is a tool to distinguish appropriate conduct from that which fails to meet the required standard. The Code of Ethics, therefore, provides the basis on which allegations of unprofessional conduct are adjudicated through the discipline process.

The principles enunciated in the Code of Ethics are guideposts. APEGA relies on the professional conscience of each member to guide his or her actions. The Code and this guideline are not references meant to sit on a shelf. These principles should be familiar to all professionals and should guide their daily ethical practice in the same way that physical principles are well known and guide their daily professional work.

2. ETHICS AND THE PROFESSIONS

Through the years, the application of our professions' values and standards has changed. This evolution has been reflected in successive Codes of Ethics. A brief history is presented in Appendix D. APEGA's guidelines on professional practice and concepts of professionalism reflect the most recent perspectives.

2.1 Professions

In the generic sense, a profession is a learned calling with specialized knowledge. This knowledge is applied with experienced judgement in the context of recognized social responsibilities.

- A profession renders services based upon advanced knowledge, skill and judgement, which the public takes on trust.
- It is charged with substantive public obligation and performs services to a greater or lesser degree in the general public interest
- It is bound by a distinctive ethical code in its relationships with the public, clients, employees and colleagues.
- It accepts responsibility to regulate professional members and professional services provided to clients and the public.

Professions such as engineering and geoscience are generally highly organized; they have definitive minimum standards of admission; they regulate the activities of their members, in terms of both skilled practice and ethical conduct; they promote the advancement of knowledge and they encourage the formulation of standards.

One of the noteworthy characteristics of those professions granted self-governing status under provincial statute, is the authority to discipline those members who fail to comply with proper standards of practice and conduct. In APEGA, this authority is effected through the disciplinary process. Following a formal hearing, the Discipline Committee may find that the actions of a member under investigation constitute unskilled practice of the profession, unprofessional conduct or both. (See Appendix C.)

Unskilled practice of the profession means practice by APEGA members that is deemed by their peers to be below acceptable standards of practice in terms of technical competence or the overall performance of the scope of services undertaken.

Unprofessional conduct means conduct by APEGA members that is deemed by their peers to be in violation of the Code of Ethics.

Typically, professionals are accountable for their own professional practice, for the professional practice of those under their supervision and for their profession generally.

They also have an obligation to practice their profession in accordance with ethical standards. Professionals depend on confidence of two kinds for effective pursuit of their work, namely:

- the personal confidence of the client or employer in their technical competence, and
- the confidence of the public at large in their integrity in serving society as a whole.

This, in turn, imposes a duty upon both the profession and the individual engineer or geoscientist to justify the trust he or she enjoys from the public, clients or employers. This responsibility and accountability is accepted by professionals as part of their obligations to society.

2.2 Ethics

The word "ethics" comes from the Greek word "ethos" relating to the study of standards of right and wrong: that part of science and philosophy dealing with moral conduct, duty, and judgement. Ethics deals with voluntary actions taken by an individual with sufficient knowledge of the options available to him or her.

In the context of a profession serving society, the Code of Ethics shapes our individual practices in the following two important ways:

- Adherence to the Code of Ethics provides a common set of values within the profession, and thereby offers a reliable professional product to the public. Practicing in both a competent and an ethical manner are two indivisible components vital to maintaining a relationship of trust with individual clients and with the public in general.
- In an increasingly technological world, the public is looking to engineers and geoscientists to provide societal leadership. The professional relationship of trust is a fundamental element as we do our part in guiding society to adopt technology for the advancement of human welfare.

2.3 Excellence

The Greek root word "ethos" connotes not just shared values as minimum standards, but, in addition, it signifies a shared commitment with our peers to strive for excellence.

The people of Alberta have vested APEGA and its members with certain responsibilities and privileges. In return, the public expects competent practice and ethical conduct from engineers and geoscientists. To be leaders within society, members should strive for more than adequate services. In their advice or designs, their goal should be excellence.

Because society is changing rapidly, a high level of integrity on the part of professionals is increasingly important. Engineers and geoscientists have earned a position as

honoured and respected members of society, and will continue to make vital contributions to the quality of life in Alberta, Canada, and the world.

3. APEGA CODE OF ETHICS

3.1 Preamble

Professional engineers and geoscientists shall recognize that professional ethics is founded upon integrity, competence, dignity, and devotion to service. This concept shall guide their conduct at all times.

3.2 Rules of Conduct

1. Professional engineers and geoscientists shall, in their areas of practice, hold paramount the health, safety and welfare of the public, and have regard for the environment.
2. Professional engineers and geoscientists shall undertake only work that they are competent to perform by virtue of their training and experience.
3. Professional engineers and geoscientists shall conduct themselves with integrity, honesty, fairness and objectivity in their professional activities.
4. Professional engineers and geoscientists shall comply with applicable statutes, regulations and bylaws in their professional practices.
5. Professional engineers and geoscientists shall uphold and enhance the honour, dignity, and reputation of their professions and, thus, the ability of the professions to serve the public interest.

4. COMMENTARY

4.1 Rule 1 – Health, Safety & Welfare of the Public

Professional engineers and geoscientists shall, in their areas of practice, hold paramount the health, safety and welfare of the public, and have regard for the environment.

The following commentary illustrates how the principles outlined in Rule 1 are interpreted and applied to professional activities.

4.1.1 Holding Paramount

- Holding “paramount” public safety, health and welfare means that this takes precedence over all other considerations. Professionals must, in all work for which they are responsible, guard against conditions which are threatening to the life safety, longer term health, financial matters, societal welfare, or sustainable development within our environment.
- During the early stages of a project, for instance environmental approvals, it is each professional’s responsibility to present factually, objectively, and clearly the expected impacts and consequences. Society should then be able, through its regulatory bodies or political processes, to make an informed decision to proceed, or not. Once approved, the responsibility of professionals is then to minimize and mitigate environmental impacts of the project. See the APEGA “Guideline for Environmental Practice”.
- APEGA professionals must strike a balance between being enthusiastic champions on behalf of their employers or clients, versus maintaining objectivity, credibility, and the trust of the public.
- It should be recognized that professionals will occasionally have a legitimate disagreement about the degree of risk presented by a project versus the degree of protection of the public interest which is warranted. The Code of Ethics provides a framework for respectful and constructive disagreement, as well as a process for resolution – see the discussion “Having Recommendations Overruled” in the commentary following Rule 3.

4.1.2 Safe Workplaces and Projects

- Professionals are typically leaders in organizations and on projects: they should have regard for safety in the workplace or on the project site. Current awareness must be maintained with respect to building codes, construction, industrial and occupational safety regulations, as well as legislation and good practices relating to environmental protection.
- Professionals should also be vigilant in areas beyond their direct professional responsibility. They have an obligation to report conditions which present a material, immediate threat to safety, health, welfare, or the environment. These conditions should be reported first to those professionals who are responsible; if a satisfactory response is not forthcoming, then it should be reported to appropriate corporate or regulatory authorities. Note that this facet of Rule 1 is aimed at informing responsible professionals about unknown or changing circumstances which require action or response; it does not empower peripheral parties to second guess the technical judgements or recommendations of those who are responsible.

4.1.3 Professional Leadership

- Although they may not have formal authority, professionals have a responsibility to lead by example and set the tone for the competent and ethical conducting of business in their organizations. In many organizations, APEGA members are hired in part because they provide this leadership. In some organizations, APEGA members are the only employees who have a legal obligation to protect the public interest.
- Professionals have a responsibility to maintain a knowledgeable interest, within their sphere of expertise, of technologies which have the potential to impact the public interest. Employers or clients should be advised accordingly, and assistance given to strategically manage such technologies and monetary matters to avoid negative impacts and maximize positive impacts on society.

Stan Dard, P.Eng., was responsible for supervising the perforating procedures for the well casing opposite a potential gas-producing zone. There was no fluid within the casing. Therefore, after perforation, the flow of natural gas would not be contained by the hydrostatic pressure of fluid within the producing formation.

Kim Berlite, P.Geol., who was familiar with operations at the well site and knew that the well could produce significant volumes of gas at a high formation pressure, had correctly selected the depth intervals at which the casing was to be perforated.

The perforating company, acting under the supervision of Mr. Dard, proceeded to perforate the dry casing. The perforating tools and cable were blown from the well by a significant, uncontrolled flow of high-pressure gas. A nearly unmanageable amount of natural gas flowed from the well, creating hazards to equipment and placing several lives at risk.

Fortunately, the well was brought under control and capped without injury to the workers. This might not have been accomplished under other circumstances — for example, if the gas flow had been greater, or if the gas had contained hydrogen sulphide.

The failure in communication between two technical professionals endangered the lives of fellow workers. It could have caused significant economic loss as well as damage to the environment. Rule 1 of the Code was clearly violated.

Ms. Berlite, the professional geologist, failed to caution Mr. Dard, the supervising engineer, regarding the high gas zone and the potential hazard of a blow-out. Mr. Dard was responsible for anticipating a variety of possible hazards involved in perforating a well casing opposite a potentially high-pressure gas zone. He should have consulted Ms. Berlite regarding the well before he decided upon perforating procedures. The correct procedures for perforating under the existing circumstances would have been to control the gas flow by filling the well casing with a drilling or completion fluid prior to perforating it.

A professional engineer is a member of a design team with MM Design Build Corporation, an APEGA permit holder. The corporation has been retained to design a pulp mill near Innesville in northern Alberta and to complete operational trials up to a specified capacity. The professional engineer was born in this area and spent all his pre-university years on a farm near Innesville.

Instructions to the design team include rigid compliance with all government regulations concerning environmental damage, permissible volumes, and contents of liquid and airborne pollutants.

As the design proceeds and initial visits are made to the site, the engineer realizes that airborne pollution will barely satisfy current regulations. From his local knowledge, he realizes that the mill odours carried by prevailing winds at the site will significantly affect the quality of life in two major communities within 30 kilometres of the site.

What action should the professional engineer take?

The engineer has a prime responsibility to complete his technical duties efficiently with regard to this project and to do so according to existing regulations. As a part of his desire for a totally successful project, he should also inform his supervisors at MM Corporation of his special concern regarding the local area.

The potentially negative public reaction to both MM Corporation and future projects of this type should cause the corporation to review the matter with the owners. At this early stage of design, it may be practical to introduce low-cost modifications to reduce or eliminate these potential environmental hazards resulting from airborne pollution.

4.1.4 “Considering the Public Interest”

Professional engineers and geoscientists are charged with protecting public safety, health and welfare – i.e. “the public interest”. This is at once a magnificent responsibility and a daunting challenge!

It must first be recognized that there is no simple definition of “the public interest”. Technical, economic, and social issues related to engineering projects are often complex and interrelated. Trade-offs are almost always required. Substantial pressure can be brought to bear on a project, based on the uni-dimensional agenda of a special interest group. Societal perceptions and values evolve over time – the increasing emphasis placed on environmental protection is one example. For large infrastructure projects, the effects of which will be felt for decades, “the public” can include generations yet unborn.

The many facets of public interest fall under headings such as:

- risk to safety (immediate, direct danger)
- risk of health effects (longer term or cumulative effects)
- probable environmental impacts and resource conservation (sustainable development)
- socio-economic impacts (on a societal scale, not individuals or single companies)
- public acceptability (small “p” political consensus)
- technical feasibility, operating reliability and financial acceptability
- impact of related projects (e.g. pipelines or electricity generation plants)
- future project opportunities enabled or blocked

Not all of these categories will apply for some projects, additional headings will be necessary to properly consider other projects, and the relative weights given to the selected categories will be unique to individual project circumstances.

Clearly, consideration of the public interest is loaded with value judgements. This may seem daunting, but is not so different than the array of technical decisions and trade-offs necessary to shape successful projects.

4.2 Rule 2 – Competence and Knowledge

Professional engineers and geoscientists shall undertake only work that they are competent to perform by virtue of their training and experience.

The following commentary illustrates how the principles outlined in Rule 2 are interpreted and applied to professional activities.

4.2.1 Scope of Responsibility

Before accepting assignments, professionals should ensure that their clients and employers understand the extent of the members’ professional responsibilities.

- Defining the extent of the members’ professional responsibilities and developing a scope of services essentially entails listing the specified tasks envisioned within the term of engagement and the delivery of performance expectations associated with the various tasks. It is detrimental to both parties for either to convey inaccurate skill expectations or abilities in the core of the relationship.
- Depending on the size and complexity of the employment organization and/or project, it may be necessary to define the specific technical discipline of activity and the skills expected or required to undertake the commission effectively. The scope of services can also indicate potential or future scope for the individual based on performance of services or the extension of project requirements.

4.2.2 Presentation of Qualifications

Professionals should present their qualifications and competence only through factual representation without exaggeration.

- Professional engineers or geoscientists should undertake assignments only when they are competent to do so. This is a separate consideration from the standard of care that a court would require in dealing with negligence. It is an ethical issue requiring honesty with a client or employer and oneself.
- This rule clearly does not prevent professional engineers and geoscientists from tackling new challenges and learning new skills, as long as the successful completion of the assignment is not jeopardized and honesty is maintained with the client or employer. In a related sense, professionals should not overlook the fact that today's technical society demands specialized knowledge to be efficient and competitive. (See also Rule 3.)

An engineer promoted her services to a number of prospective clients. She advertised her project management skills, experience in process engineering, research accomplished on critical process components and ownership of patentable processes.

Following submission of a proposal, she was retained by a client to design a specialized process plant and conduct research and testing of critical components required to achieve full production at the facility. As work proceeded, delays occurred, primarily due to lack of adequately detailed drawings from the engineer. As soon as the operating equipment was installed, a check-run was conducted to assess the process capacity. Despite numerous time-consuming adjustments, the tests never achieved the minimum flow estimated by the engineer. Revised designs required purchase of additional equipment jeopardizing the economics of the plant. When asked to clarify the matter of ownership of the patentable processes, the engineer provided no information.

The client complained to APEGA that the engineer had misrepresented her capabilities to handle the project.

A discipline hearing confirmed that the engineer and her company had not performed in a skilful manner, had not co-ordinated the plant design, had not monitored the capacities of various components and had not displayed the competency that was promised.

The engineer clearly violated Rule 2 of the Code of Ethics. She "over-sold" her capabilities, and when it became clear that the design was not progressing well, she did not seek expert assistance.

- It is most important, especially today, that professionals regularly review their own and their firm's capabilities to provide specific services to the public. Many "proven" specialty companies are available to call on when required. However, if specialized

assistance is needed, it is important that the company's credentials be checked out with some care. This is particularly the case when a lack of capability could result in serious adverse consequences.

- When sub-consultant expertise is retained, it should be with the client's informed knowledge and approval.

4.2.3 Expressing Opinions

Professionals should express opinions on engineering, geological or geophysical matters only on the basis of adequate knowledge, experience and honest conviction.

- Professional members should ensure, to the best of their ability, that statements on engineering, geological or geophysical matters attributed to them properly reflect their professional opinion. (See also Rule 3.)

4.2.4 Stamping and Signing Documents

Professionals shall only stamp and sign reports, plans or documents that they have prepared or that have been prepared under their direct supervision and control. In the case of work prepared by others, they shall only stamp and sign after having thoroughly reviewed the work and accepted responsibility for it.

- A professional stamp or seal affixed to a document is intended to indicate that the document has been produced under the supervision and control of a fully qualified professional member of APEGA, or that it has been thoroughly reviewed by a professional member of APEGA who accepts responsibility for it. Professional stamps and seals shall be affixed, signed and dated only after the responsible member is satisfied that the document or component for which he or she is professionally responsible is complete and correct.
- An adequate supervision and control system is defined as a system that permits an APEGA member to properly accept professional responsibility for the results of the engineering, geological, and geophysical tasks performed by others working under his or her supervision and control. Additional information on this topic is available in APEGA's *Practice Standard for Authenticating Professional Documents*.
- Professional engineers and geoscientists who apply their seals or stamps to reports, plans or other documents are, in effect, stating that they understand and are in agreement with these documents. If other members of the engineering or geoscience team prepared the documents, the responsible professional shall have exercised sufficient supervision and control, or have thoroughly reviewed the document, so that he or she can sign based on personal knowledge.
- As a matter of practice, professionals shall keep their stamps and seals under control. (See guideline on authentication.)

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- The absence of a seal or stamp does not necessarily indicate that a professional member has not reviewed the document, nor does it relieve the member from professional or legal responsibility if it can be shown that he or she was involved with the work.

An engineer did some work for his personal friend who owned ABC Steel Industries. The engineer had signed and stamped welding report forms without having visited the premises for all the required inspections.

During an APEGA disciplinary hearing, the engineer stated that he normally would visit the shop and have the shop foreman fill out certain parts of the inspection report. The engineer would then conduct his inspection and sign the report form, signifying his agreement with the information provided.

The engineer acknowledged that he signed the reports on certain occasions without making the required inspections but indicated that his action was prompted by a request from his friend, the shop owner. In these instances, he did consult with the shop foreman by telephone.

Considering that the engineer neither asked for nor received a fee for signing the reports or for the inspections he made, did he violate Rule 2 of the Code of Ethics?

No matter what his motives were, the engineer violated Rule 2 by indicating that he had witnessed and had personal knowledge of specific welding work.

A practical alternative for this type of inspection process might be to develop a mutually acceptable alternative report. The report could support the engineer's confidence in the foreman's understanding of the work and certify approval of those operational procedures used by the shop foreman and reviewed during the engineer's inspection visits.

A geophysical consulting company, LMN Geophysical Inc., was awarded an assignment to design a drilling program, interpret data, evaluate the potential of the field, and prepare a report for use by a client to raise capital from the public. The company president, Cy Smick, P.Geoph., assumed both corporate and professional responsibility for the professional practice of the company. He maintained custody of the permit stamp and only he was authorized to affix and sign it before completed documents were issued.

The assignment came at a time when the company was extremely busy, Mr. Smick assigned Dee S. Covery, P.Geoph., to direct and control the project. However, she was not able to devote as much attention to the assignment as she believed was needed to provide an adequate level of professional direction.

When it was completed, Ms. Covery discussed the report with Mr. Smick. Although she believed that the project staff had performed their respective duties responsibly and well, Ms.

Covery expressed concern that she had not been able to properly supervise the work. She explained that for this reason she had not affixed her professional stamp to the final report. The president accepted this explanation and, without further review, affixed and signed LMN's permit stamp to the report and mailed it to the client.

The report was accepted and used to develop a prospectus for distribution to potential investors. Several years later, an error was discovered in the report, which had the effect of overstating the investment potential by a factor of three.

The client sued LMN and named Smick and Covery in the lawsuit. One of the investors complained to APEGA.

Who should bear the major responsibility for the error that precipitated the lawsuit — LMN's president or the responsible geophysicist?

To what extent is the geophysicist responsible, having refused to affix her professional stamp?

Mr. Smick bears the major responsibility for two reasons.

- *He neglected to review Ms. Covery's workload before assigning the assignment to her.*
- *He neglected to review the report himself or to have it reviewed by Ms. Covery before applying the permit stamp and issuing it to the client.*

However, Ms. Covery, could have handled the situation better. She should have told Mr. Smick at the outset that she would be unable to properly supervise this project when it was assigned to her.

4.2.5 Engaging Experts

Professionals should engage, or advise their clients and employers to engage, other experts and specialists whenever the clients' or employers' interests are best served by such service.

4.2.6 Continuing Professional Competence

Professionals should take appropriate measures to maintain the required level of competence in their profession through the implementation of a continuing professional development program meeting APEGA's standards at a minimum.

- Competence may be defined as "The ability to effectively perform a service in a skilled, knowledgeable and ethical manner consistent with the individual's position and responsibilities." It is not enough to rely on disciplinary procedures, individual motivation, or any other single factor. A practical program is required which

balances the need for independent practice with the profession's responsibility to its stakeholders.

- APEGA members, the public, government, employers and clients are increasingly aware of the rate of change in knowledge-based industries. These groups require evidence that demonstrates the continued competence of professional members.
- Every professional should establish a personal program of continuing education to maintain and upgrade his or her knowledge and competence in his or her areas of practice.

4.3 Rule 3 – Integrity, Honesty, Fairness and Objectivity

Professional engineers and geoscientists shall conduct themselves with integrity, honesty, fairness and objectivity in their professional activities.

The following commentary illustrates how the principles outlined in Rule 3 are interpreted and applied to professional activities.

4.3.1 Acting Fairly

Professionals should faithfully discharge their responsibilities to clients/employers, always acting with fairness and justice to all.

- A client's or employer's interests should be held in high regard. However, the following duties take precedence over the interests of the professionals' client or employer:
 - the duty to protect the safety of the public;
 - the duty to the professions under the Code of Ethics; and
 - the duty to act fairly and justly to all parties when administering a contract on behalf of a client or employer.
- Where the interests of a client or employer are in conflict with the above-enumerated duties, a professional should advise the client or employer.
- Acting with fairness and justice to all parties is particularly relevant when a professional is administering a contract on behalf of a client or employer.
- In providing services to a client, professionals should consider themselves part of the client's organization or team, with high regard for the client's interests. This is the basis of the professional-client relationship. Professionals' duties of care for a client's interests should not supersede the professionals' duties to protect public

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- safety and other duties that may be in conflict with a client's interests. Professionals should put their client's interests before their personal interests.
- If professionals become aware of errors or omissions in their services, they should report these to their superiors immediately and work positively to remedy such errors and omissions. Where questions of insurance coverage and liability arise, professionals should address these matters through the appropriate authority in their own organizations.
 - Professionals have an obligation to discuss with their clients the risks inherent in their projects and how to manage those risks.
 - Professionals have an obligation to provide timely notification and advice to their clients when they believe a project will not be successful.
 - Professionals involved in project management, contract supervision, contract administration or review during construction should spend sufficient time on the job to ensure that their direction, reports, and estimates reflect actual site conditions and progress. Their interpretation of agreements and contract documents should reflect the spirit and intent of the documents.
 - The relationships of professionals with their business associates should be friendly, but independent and free from obligating gratuities.

Consulting engineers preparing the tender documents for a contract to build a section of highway for the province were responsible for providing information for use by the bidders. The tender documents clearly stated that the information in the documents was only provided for the general information of bidders and that the accuracy of the information was not in any way warranted or guaranteed. A construction company was the successful bidder and suffered substantial losses due to unforeseen site conditions. The construction company sued the province and the engineers.

The court found that the engineers could be liable to the contractor notwithstanding that the contractor was not the engineer's client. The contractor was entitled to rely on the engineers' information without having to do their own engineering.

Ed Ulcorate, P.Eng., has contracted to purchase a large and expensive piece of equipment with a performance guarantee. The supplier's lack of expertise and its eagerness to make a sale have contributed to an over-optimistic guarantee. Because of his firm's technical capability, Ed knows the equipment cannot perform to the performance specification but otherwise will be quite useable for his purposes. The contract stipulates that if the equipment does not perform as specified, the purchaser has the option of rejecting it and paying nothing. The threat of a complete rejection would seriously impact the supplier, so Ed's negotiating

position would be extremely strong. When it becomes obvious the performance specification cannot be achieved, a settlement should be negotiated.

Is it ethical for Ed to enter into the purchase arrangement with a view to enforcing the guarantee when he already knows or suspects that it cannot be met?

Can Ed ethically negotiate a significant settlement under these circumstances if the equipment is actually suitable to his application?

It would be unethical for Ed Ulcorate to take advantage of the supplier's apparent mistake. If he suspects that the supplier has made an error, Ed has a duty, before signing the contract, to advise the supplier of his concerns about the guarantee. If the supplier fails to revise the performance guarantee once it has been advised of Ed's concerns, he is at liberty to enter into the purchase contract.

If Ed knows from the onset that the equipment will not meet the performance guarantee but will otherwise be quite suitable, and he proceeds with the purchase anyway, it would not be ethical for him to later attempt to negotiate any reduction in the purchase price.

4.3.2 Expressing Opinions in Public

Professionals should clearly distinguish between facts, assumptions, and opinions in their professional work and also in public discussion or published articles with respect to their professional work. They should, when expressing opinions or in public discussion on professional matters, clearly disclose on whose behalf they are giving opinions or statements.

- The honesty enunciated in Rule 3 extends also to the results of one's work. It is incumbent upon professionals to express the results of their work clearly and accurately; to place an appropriate qualification on the results when a matter is only partially resolved; and to avoid bias due to political, economic or other non-technical factors. In both corporate and societal settings, professionals should focus discussion on the facts of the issue and do their best to ensure that their professional opinions are accurately represented. In order to avoid misinterpretation by the audience when presenting complex issues to a non-technical audience, professionals should simplify their discussion without losing the critical elements.
- Professionals need not be devoid of personal or political interests. Rather, they should separate their personal views from their professional activities and be impartial and factual when expressing professional opinions. (See also Rule 2.)

4.3.3 Maintaining Confidentiality

Professionals should keep confidential all information that is acquired in the course of their professional duties and that concerns the business affairs of present or past clients/employers. This obligation ceases if the information legally enters the public domain (For instance, release of exploration well data one year after drilling.) Professionals should not use their client's/employer's confidential information for personal gain.

- All information coming to the knowledge of a professional from an employer or client should be considered as confidential. Confidential information, where specifically noted as such, is proprietary information and is only loaned to a professional to enable the professional to appraise a situation for a specific project.
- Confidential information may be disclosed if the client's/employer's prior permission is obtained or if disclosure is required by law. If required by law to disclose confidential information, disclosure should be made only to the extent required by law. Present or past clients/employers should be advised of such disclosure as soon as practical. Under certain circumstances, a professional could come to the reasonable belief that withholding of the information is contrary to the safety of the public. The professional should then disclose to appropriate authorities only that information necessary to protect public safety.
- Process information and/or all confidential information received during professional service should be considered the exclusive property of its owner and should not be disclosed to others except with the owner's specific approval. Particular care should be taken regarding trade practices that may be unique and practices that identify the owner's special attributes.
- Extraordinary circumstances may arise, for example, when consulting geoscientists are approached by a second client to work on a play where they have already worked for another client, or when a consulting engineer is approached separately by two parties competing on a proposed project. Even to disclose to the second client that another client was actively considering a play or project would reveal competitive information about the original client. In such cases, the professional should first use judgement to decide that the second assignment can be fulfilled using his or her general professional knowledge, without being influenced by the first assignment. If there is significant risk of influence by the first assignment or of leakage of proprietary information of the first client, the assignment should be declined without disclosing the interest of the first client.
- When professionals use designs supplied by clients, the designs remain the property of the clients and should not be duplicated by the professionals for others without the express permission of the first client.
- Professionals may contemplate engaging in new work that would require the application of confidential knowledge that was obtained through other projects. However, they should not promote such work or employment, or negotiate for it

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- without the consent of all parties connected with the prior projects that were of a confidential nature.
- Technical knowledge gained by an individual through exposure to the work environment is part of the professional's experience and may be freely used in subsequent projects without consent from other parties.
 - The duty not to disseminate secret and confidential information obtained in the course of one's work is an obligation recognized and enforced by common law, oaths of secrecy, Criminal Code, and non-disclosure provisions of specific statutes. However, many legal uncertainties remain regarding laws requiring disclosure and confidentiality.
 - These conflicting requirements may present a dilemma to the professional engaged to design and/or supervise a project that may be dangerous to the public. The professional's responsibility to protect the well-being and safety of the public may well be in conflict with the duty to a client or employer to act as a loyal agent and not disclose, without consent, confidential information concerning the client's or employer's business affairs, technical methods, or processes.
 - Since duty to the public is paramount, a professional in such conflict is required to advise the employer or client, preferably in writing, of a concern regarding the material threat to the public. If the concern is ignored or overruled and the client or employer continues to follow a course of action that is harmful, the professional should inform his employer or client that he or she is ethically bound to present the concern to the appropriate authorities and perhaps even disassociate himself or herself from the project. Whatever the professional chooses to do, in discussing the concern, he or she should not disclose, except as required by law, the employer's or client's confidential information gained during the term of employment.
 - Where, in the opinion of the professional, the withholding of confidential information jeopardizes public safety, he or she should make every effort to contact all parties before disclosure of this information to the proper authority.

Aurest Corporation has been advised by a pollution-control agency that it has 60 days to apply for a permit to discharge manufacturing wastes into an adjacent lake. The agency has also advised Aurest of the minimum standard that must be met.

In an effort to convince the agency that the lake will still meet established environmental standards after receiving the manufacturing wastes, the corporation employs Rick Titude, P.Eng., to perform consulting engineering services and submit a detailed report.

After completion of his studies, but before completion of any written report, Rick concludes that the discharge from the plant will lower the quality of the lake below established standards. He further concludes that corrective action will be very costly. Rick orally advises Aurest Corporation of his findings. Subsequently, the corporation terminates Rick's contract with full payment for his services performed and instructs him not to render a written report to the corporation.

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Thereafter, Rick learns that the authority has called a public hearing and that Aurest has presented information to support its view that the present discharge meets minimum standards.

Does Rick have an ethical obligation to report his findings to the agency upon learning of the hearing? If so, how should he go about reporting these findings to the agency? Does he have any obligation to notify Aurest Corporation of his intended actions before proceeding?

The failure to meet minimum standards established by law may be detrimental to public health and safety. Therefore, upon learning of the hearing, Rick should first consider his obligations to the public, which override considerations of confidentiality of information.

As well, Rick did not complete his actions. He should have rendered a written report, despite the company's instructions not to do so. He might later have to attend a public hearing, and, if he has rendered a report, he would be acting from a position of strength.

To enable the issue to be resolved with all facts available, Rick should find a way to see that his report findings are considered at the hearing along with other information submitted by Aurest.

While appearances would indicate that Aurest may be presenting a case that may leave out some critical factors, it is also possible that it has used the oral reports from Rick to find acceptable alternate methods of satisfying the minimum standards.

Rick should approach senior officials of Aurest to clarify whether his findings have been included in the corporation's presentation to the pollution-control agency. If not, he should explain clearly to Aurest that he has a professional obligation to advise the regulatory agency of the additional information.

Reynosa Software Ltd. sets up a computer system in its home office and purchases appropriate software packages for its business operation. Frank Ness, P.Eng., holds a senior position with the company. His expertise is called on for making revisions and modifications to the software so that the packages become tailor-made for the Reynosa's use. Frank takes a disk copy of the completed program home and is later discharged from the job because of a downturn in business that forces the software company to reduce its staff.

At this time, Frank forms his own company and uses the software, after he has extensively updated it to suit his own business purposes. Although the nature of Frank's work is not in competition with his former employer, his use of the software becomes known and Reynosa sues Frank for damages.

Has Frank Ness acted ethically towards Reynosa Software Ltd., and is he legally liable for damages by using a modified copy of software that he assisted in creating?

The line dividing the use by an employee of his own knowledge and skills, and the use of his employer's proprietary or trade secrets is very difficult to draw. However, loyalty, good faith, and avoidance of a conflict between professional duty and self-interest are the key ethical issues in this case. Taking, and using or modifying a client's computer disk for personal gain is a breach of trust and confidentiality.

To the extent that personnel besides Frank developed the original program and to the extent that portions of the original program are still used by him, he is in breach of Rule 3.

Legally, Frank was judged to have caused damages under the principle of unjust enrichment, even though Reynosa was not deprived of the use of its software or infringed upon in the area of competitive work.

This does not mean that the employee must erase from his memory the skills and experience gained from a former employer. The distinction between skills and knowledge gained while on the job versus trade secrets that are the confidential property of the employer and its clients should be mutually determined and respected.

4.3.4 Conflict of Interest

Under normal circumstances, professionals should, before accepting assignments inform clients/employers of any special interests, business connections, personal relationships, conflicts of interest, or other circumstances that could influence their professional services or judgement. They should never offer or accept any covert payment or perquisites.

- Professional engineers and geoscientists have a right to make political contributions but they have a duty under the Code of Ethics to avoid doing so in such a manner that professional stature would be damaged or exposed to misunderstanding on the part of the public.
- The securing of personnel to fill salaried positions through employment agencies is not a violation of this Rule.

A local group of business and community leaders banded together and organized a Promotion Committee for the purpose of raising funds and conducting an educational program in support of a favourable vote for a major hydroelectric dam project. The project would entail extensive engineering services of substantial value to local engineering firms.

The Promotion Committee approached local engineering firms and made similar contacts with bankers, realtors, insurance companies and other local business operators to solicit funds for the public education program in support of the dam project.

Is it ethical for engineering firms to contribute funds to the promotion fund in the expectation or possibility that those firms might later seek design commissions arising from the project?

It is assumed that the proposed dam would advance the well-being of the citizenry. On that basis, it would be proper and desirable for engineers, along with others, to actively support the project through monetary contributions and volunteer work.

In the circumstances of this case, any degree of self-serving motivation is considered to be sufficiently remote and removed from undue influence that Rule 3 is not violated.

The case does not state the amount contributed by engineering firms to the total fund. As a general guideline, the financial support of the engineering firms should be in line with those of other elements of the community and not specifically aimed at "buying in" for future commissions.

In this particular case, it is considered ethical for the engineering firms to contribute funds despite the future possibility of obtaining a design commission for a portion of this project.

4.3.5 Having Recommendations Overruled

Professionals should present clearly to their clients/employers the consequences if their professional judgement is disregarded or overruled.

- Professional engineers and geoscientists may occasionally find themselves in a situation where their employer, client, or another expert is questioning their recommendations.
- When the disagreement is between two professionals, the duty of the individual who bears professional responsibility for the recommendation is to ensure that his or her facts and recommendations are correct, and that the information and assumptions are laid out simply and lucidly. This should be done both in writing and by personal contact for contentious issues. If the senior professional chooses to overrule the other professional's recommendation, in full knowledge of its basis, the senior professional consciously takes responsibility.
- A professional has continuing obligations although others may overrule his or her recommendations.
- When professionals find themselves in a situation where a non-professional is questioning their recommendation, an additional element of difficulty is introduced. The non-professional may lack the technical sophistication to appreciate both the rationale of the recommendation and the potential consequences of failure. As a result, the non-professional may not accept the recommendation. In such instances,

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the professional should ensure that an appropriate decision is made. He or she remains the last line of defence for the public welfare.

- When a client or employer makes a decision that adversely affects the public interest and is contrary to the recommendation of the professional, the latter should inform the client or employer of the consequences of the decision. If the client or employer is unavailable or unresponsive, the professional should notify the appropriate regulatory authorities that have the ability to evaluate the concerns and the power to suspend activities until the technical issue is resolved.

Engineers of Phoresis Engineering Ltd. prepared plans and specifications for machinery to be used in a manufacturing process. Phoresis Engineering turned them over to Nugae Manufacturing Inc. for production. In reviewing the plans and specifications, Nugae Manufacturing's engineers came to the conclusion that the plans included certain miscalculations and technical deficiencies of a nature that likely would make the final product unsuitable for the purposes of the users. In addition, they concluded that the equipment, if built according to the original plans and specifications, might endanger the lives of persons close to it.

Nugae's engineers called the matter to the attention of appropriate officers of their employer who, in turn, advised Phoresis Engineering Ltd. of the concern expressed by Nugae's engineers. Phoresis replied that its engineers felt that the design and specifications for the equipment were adequate and safe and that Nugae Manufacturing should proceed to build the equipment as designed and specified. The officers of Nugae Manufacturing instructed its engineers to proceed with the work.

Under these circumstances what should the engineers of Nugae Manufacturing Inc. do now?

To proceed with production without resolving their concerns would put the engineers of Nugae Manufacturing Inc. in violation of Rule 3. The failure to resolve safety issues may also be a breach of Rule 1.

After checking their conclusion that the machinery would be unsafe, the engineers should restate their concern in unequivocal terms to the management of Nugae Manufacturing, noting the potential for injury or death to workers. A meeting should be held with the engineers of Phoresis Engineering Ltd. to explore why they had come to the conclusion the machinery was safe. (If possible, Nugae's engineers, in order to provide a positive perspective, should prepare some general suggestions regarding economical ways to deal with their concerns.) If their concerns are not resolved, Nugae's engineers should report the danger to the authority having jurisdiction and should advise the APEGA Registrar regarding the apparent breach of the Code of Ethics by the engineers of Phoresis Engineering Ltd.

Bill Ding, P.Eng., a geotechnical consultant with an M.Sc. and five years experience, is employed by a consulting firm. He has designed a ten-metre-high earth dam for an industrial project in northern Alberta. His recommendations are developed from a computer analysis, which, in turn, is based on soil properties derived from a limited field investigation.

Eddy Fice, P.Eng., a principal in the consulting firm, reviews the report before submission to the client. His experience suggests that steeper side slopes can be used, reducing the earth fill volume by about fifteen percent. Eddy requests that Bill change the report accordingly. After considerable discussion, Bill agrees to recheck the analysis, but remains unconvinced that Eddy is correct.

What should Bill do now?

Bill is on the right track. Rechecking assumptions, calculations, and relative conservatism of the design approach is the first step in deciding how vigorously to defend the original design. Further, because significant earthmoving savings are at stake, additional work may be justified in refining soil properties or conducting an alternate analysis.

If Bill remains convinced that the original design is correct, he should so advise Eddy, providing a clear explanation of his reasoning. If Eddy then chooses to overrule Bill, they should agree that Eddy accepts professional responsibility for the report with his signature and seal. Bill should not sign or seal recommendations which he does not personally accept.

Because a senior professional has accepted responsibility and in such a case as this there is little or no jeopardy to human safety as a result of potential failure, the discussion would not normally go beyond the two professionals.

4.4 Rule 4 – Statutes, Regulations, Bylaws

Professional engineers and geoscientists shall comply with applicable statutes, regulations and bylaws in their professional practices.

The following commentary illustrates how the fundamental principal in Rule 4 is applied and interpreted in professional practices and activities.

Professionals include all those persons regulated by the Act, including professional engineers and geoscientists. Inherent in the statutes, regulations and bylaws, there may be standards, codes, rules, and directives relating to the professional's practice or to the project. In this context, this commentary will refer to "the law" and endeavour to describe what types of breaches of "the law" would be worthy of sanction by a professional organization. Similarly, the word "project" refers to the undertaking, plan or scheme that is the focus of the professional's work or activity. For example, it could be a geological report, irrigation system for a county, office building, etc., where the

professional, depending upon his or her contractual role, may have very minor or major responsibilities.

4.4.1 Being Aware of the Law

Professionals should maintain adequate knowledge of the law relating to their area of practice.

- Professionals should recognize that there may be a large variance in the number of federal, provincial, and municipal laws, which may be of significance to the project they are working on or for which they are responsible. From one jurisdiction to another, these laws may be contradictory, overlapping and open to question. The responsible party (professional, client, owner or contractor) may need to use his or her own judgement, seek outside advice or obtain an agreement from the appropriate authority in the application of the law. It is important to not unnecessarily jeopardize the project or follow a course of action that is detrimental to the public interest.
- The member professionals should recognize that they are governed by the Alberta provincial legislation: the *Engineering and Geoscience Professions Act* and its Regulations. The Code of Ethics is produced pursuant to this Act. The Association has published several guidelines to aid professionals in understanding their responsibilities.
- The extent of the duties and responsibilities of professionals, in regard to the law, may vary from project to project. An example is a building project where (pursuant to an agreement) the client or owner is responsible for acquiring the property and zoning approval appropriate for the proposed design while the professional is responsible for the design and inspection pursuant to the applicable section of the Alberta Building Code and any other design regulations relating to federal, provincial and municipal jurisdictions. It is important that the various responsibilities be clearly defined
- More recently, responsible environmental management is becoming a part of nearly every project in which the professions may be involved. Environmental practice, the law, and public expectations are changing in regard to the environment. For large projects, involving environmental impacts, the environmental advocates are becoming more prone to court challenges to establish their point of view. Those professionals involved should develop and maintain a reasonable level of understanding of environmental issues and the laws pertaining to the environment. When professionals' knowledge alone is not adequate, they should use environmental specialists.
- Presently, computer software is covered under the Canadian Copyright Act, which provides for a financial penalty as well as a jail sentence for violation. In consideration of Rule 4, professionals should guard against any violations, real or apparent of that Act.

- Recently, federal and provincial legislation has been enacted to eliminate discrimination, particularly within the workplace. Professionals should familiarize themselves with the content. Contravention could harm the standing of the profession generally and not be in the best interest of the public – both of which contravene the Code of Ethics.
- The professional's part in the process of compliance with the law is important. The various laws each have their own sponsors/jurisdictions, specific application to the project, monitoring/policing systems, and penalties for non-compliance. A breach of the law committed by a professional could be conduct deserving of sanctions by the Association.

4.4.2 Making Clients and Employers Aware of the Law

Professionals should make responsible provision so that clients and employees under their responsibility have knowledge of and comply with the laws affecting their work.

- Often clients or employers are not familiar with laws that may impact the work. Professionals have a responsibility to advise clients and employers if the professionals become aware that proposed activities conflict with the law.
- Equally, professionals take responsibility for those persons under their supervision. Professionals have an obligation to ensure that any work under their supervision adheres to the law.
- The Association's primary concern is protection of the public and the integrity of the profession. This is achieved by ensuring that each member of the profession is worthy of professional designation. However, not every breach of the law is considered to be conduct deserving of sanction. Behaviour that is notorious or public in nature or that has a dishonourable element may be subject to scrutiny. All relevant circumstances of an offence may be taken into account when considering whether particular conduct justifies sanction under these Rules.

4.5 Rule 5 — Honour, Dignity and Reputation

Professional engineers and geoscientists shall uphold and enhance the honour, dignity, and reputation of their professions, and thus the ability of the professions to serve the public interest.

The following commentary illustrates how the principles outlined in Rule 5 are interpreted and applied to professional activities.

4.5.1 Advertising and Presentations

Advertisements should be factual, clear and dignified. The same applies to proposals, presentations, and other solicitations for professional engagement.

- The intent of these statements is clear. Advertising and presentations should complement the professional image and enhance the stature of the professions. Some examples of the opposite are exaggeration of project involvement, of experience or of level of expertise, and negative comparison to or comment on competing professionals. Another is the suggestion or implication, not duly founded in fact, of the availability of staff or expertise for a project. Misleading claims, self-laudatory language and sensationalism diminish the dignity of the individual and, by association, the dignity of the entire profession.
- Specific guidelines are contained in the APEGA *Guideline on Professional Advertising*.

4.5.2 Conduct Toward Other Professionals

Conduct toward all others in the practice of the profession, including other professional engineers and geoscientists should be courteous, fair, and in good faith.

- A professional should be careful to give full credit due to others. This applies, for example, to sources of information used or referred to and to colleagues who contributed to the project success along with the professional. Likewise, it applies to other contributing firms, even if they currently may be rivals for another, similar engagement.

4.5.3 Reviewing Work of Other Professionals

Professionals should undertake an assignment to critique the work of another professional engineer or geoscientist that calls into question the professional conduct or technical competence of that individual only with the knowledge of and after communication with that individual such that the reviewer is fully apprised of all relevant information.

- Professional engineers and geoscientists are entitled to review and evaluate the work of other professionals when so required by their employment duties. When asked to review the work of another professional, it is a normal courtesy and a required obligation to contact and advise that professional accordingly. Open communication should exist between the two professionals so that the reviewing professional understands underlying assumptions and so that the professional being reviewed has an opportunity to respond to any comments or criticisms.

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- A review of, and a report on, another professional's work that is performed at the request of a lawyer is protected by solicitor-client privilege and may be done without advising the other professional. Such a report is considered to be part of the lawyer's work product and would remain privileged unless the privilege is waived by the lawyer's client or used by the client in some way.
 - Clients sometimes request that a review of another professional's work be done without the other professional's knowledge. Except in situations (discussed below) where a duty of confidentiality to the client reasonably takes precedence over the duty of courtesy to a fellow professional, the client should be advised that his or her request for secrecy runs contrary to APEGA's Code of Ethics, and so cannot be granted. It is then the client's choice whether to proceed openly, or not at all.
 - Situations exist where the duty of confidentiality to a client may create an exception to, and take precedence over, the duty of courtesy to contact a fellow professional engineer or geoscientist. An example is work of a confidential nature where a client's interests might be damaged if it became known that the work was taking place, such as reviewing exploration prospects in the petroleum industry. In such cases, the client's wish for secrecy needs to be respected.
 - Another situation arises when the information under review is of a propriety nature, thereby preventing the reviewer from freely discussing the subject.
 - In instances where a review is of a confidential or propriety nature, the reviewer should:
 - establish that the work is of a confidential or proprietary nature;
 - establish with the client that the review will be undertaken without contacting the original party;
 - establish that any contact with the professional whose work is being reviewed will be the responsibility of the client; and
 - undertake the review in a professional manner. The reviewer should be fully appraised of all the relevant facts, and be competent and knowledgeable with respect to the area under review.
 - The client's need for confidentiality may limit a reviewer's ability to determine relevant facts and, therefore, may create a conflict with his or her responsibility to do so. If such a conflict arises, an assignment should not be accepted or should be terminated.
 - Rights of a client to confidentiality do not extend to circumstances where public safety is or could be affected. Public safety is paramount and always takes precedence.

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- A professional should not call into question the professional conduct or technical competence of another professional member without first consulting that member to attempt to determine the relevant facts.
 - If a member determines, or has reasonable and probable grounds to believe that the professional conduct or the technical competence of another professional member is in serious question, he or she has a clear and definite duty to inform APEGA accordingly. (Refer to Appendix C, APEGA Discipline Process.)
 - Obviously, it risks a civil suit to maliciously injure the character or the business prospects of another professional member or of any other person. It also risks serious disciplinary action by APEGA.
 - Finally, APEGA's members have a duty to respond promptly and with honesty, openness and courtesy to their regulatory body, APEGA, whenever called upon to do so.

4.5.4 Supervising Members-in-Training

Professionals have a duty to foster understanding, professionalism, and technical expertise to members-in-training under their supervision.

- This duty requires the professional to take an active leadership role. Examples of appropriate actions and behavior could include:
 - assigning duties to members-in-training that use and build on their training and experience, and that give them good exposure to the knowledge, experience and mentoring of more senior professionals;
 - providing leadership by being active in professional and technical societies and in continuing education;
 - encouraging members-in-training to follow their example;
 - participating with members-in-training in APEGA professional development seminars;
 - being supportive of participation in professional development activities; and
 - promoting informal discussions with senior professionals on ethical dilemmas, individual interests, and professional growth.

4.5.5 Personal Behaviour and Conduct

Professionals are expected to respect the law in their personal conduct and should not engage in activities outside of their professional practice that may compromise their professional or personal reputations or bring discredit to their professions.

- Some might question whether personal conduct quite outside professional life is fair grounds for comment or enforcement under a professional association's Code of Ethics. It is of concern when questionable conduct brings notoriety to the individual or casts serious doubt on personal integrity or honesty.

Lee Gality held professional accreditation both in law and in engineering. He engaged in the practice of law, but also advertised his professional engineering designation on his letterhead. He was convicted in Criminal Court of converting client trust funds from his law practice to his own use or benefit. He received a prison sentence. The media reported that Lee intended to engage in the practice of engineering upon his release from prison.

The Association initiated discipline proceedings against Lee. After a properly convened hearing, the Association cancelled his membership.

A requirement of registration as a professional member is that the candidate must be of good character and reputation. That requirement stays with members throughout their professional careers. Lee's conduct reflected a lack of good character and reputation.

- It is self-evident that professionals should respect the law. Associating with known illegal or dubious enterprises carries a price not only in terms of personal standing and opportunities, but also in private life.
- Due care in personal conduct is, in the long-term, a rewarding investment.

4.5.6 Discrimination and Human Rights

Professionals are expected to have proper regard for the human rights of others.

- Professionals should not violate the human rights of others. They should not discriminate on the basis of race, religion, or sex, or on the basis of disability except as dictated by specific job requirements.

APPENDIX A - EXTRACTS FROM THE ACT AND REGULATIONS

References to the Code of Ethics appear in the Act and Regulations as noted below.

A-1 Engineering and Geoscience Professions (EGP) Act

- 44(1) Any conduct of a professional member, licensee, permit holder, certificate holder or member-in-training that in the opinion of the Discipline Committee or the Appeal Board
- (a) is detrimental to the best interests of the public,
 - (b) contravenes a **Code of Ethics** of the profession as established under the regulations,
 - (c) harms or tends to harm the standing of the profession generally,
 - (d) displays a lack of knowledge of, or lack of skill or judgement in the practice of the profession or,
 - (e) displays a lack of knowledge of or lack of skill or judgement in the carrying out of any duty or obligation undertaken in the practice of the profession,
- whether or not that conduct is disgraceful or dishonourable, constitutes either unskilled practice of the profession or unprofessional conduct, whichever the Discipline Committee or the Appeal Board finds.
- (2) If an investigated person fails to comply with or contravenes this Act, the regulations or the bylaws, and the failure or contravention is, in the opinion of the Discipline Committee, of a serious nature, the failure or contravention may be found by the Discipline Committee to be unprofessional conduct whether or not it would be so found under Subsection (1).

A-2 Engineering and Geoscience Professions Regulation

- 18(1)(h) The Council may make regulations establishing and providing for the publication of a **Code of Ethics** respecting the practice of the profession, the maintenance of the dignity and honour of the profession and the protection of the public interest;
- 31(1) Professional members, licensees, permit holders, members-in-training, examination candidates and students shall comply with the **Code of Ethics** in the Schedule to this Regulation.
- (2) The Association shall publish interpretations of the rules comprising the **Code of Ethics** and distribute them to professional members, licensees,

permit holders, members-in-training, examination candidates and students.

- (3) The Association shall make the **Code of Ethics** available on request to members of the public.

APPENDIX B - ETHICS REFERENCES AND RESOURCES

B-1 APEGA Selected Publications

Engineering and Geoscience Professions Act, Regulations and Bylaws

The Concepts of Professionalism

The Practice of the Professions of Geology and Geophysics

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

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

Continuing Professional Development – A Guideline for Professional Members

Mentoring: A Guideline for Members-in-Training and Professional Members

Guideline for Human Rights Issues in Professional Practice

Guideline for Professional Practice

Guideline for Environmental Practice

Practice Standard for Authenticating Professional Documents

Guideline for Advertising of Professional Services

Guideline for Selecting Engineering, Geological and Geophysical Firms

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

B-2 Books

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

Harris, C.E., M.S. Pritchard and M.J. Rabins, *Engineering Ethics: Concepts and Cases*, Wadsworth Publishing, Belmont, California, 1995.

Johnson, D.G., *Ethical Issues in Engineering*, Prentice Hall, Englewood Cliffs, New Jersey, 1991.

Martin, M.W. and R. Schinzinger, *Ethics in Engineering*, 3rd edition, McGraw Hill, New York, New York, 1996.

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

APPENDIX C - APEGA DISCIPLINE PROCESS

One of the noteworthy characteristics of professions that have been granted self-governing status under provincial statute is the authority to discipline their members who fail to comply with proper standards of practice and conduct. In APEGA, this authority is effected through a disciplinary process involving an Investigative Committee, a Discipline Committee, and an Appeal Board. Complete and specific details of the process are contained in the *Engineering and Geoscience Professions Act* and its accompanying Regulations.

Complaints about the conduct of professional members, licensees, permit holders, certificate holders, or members-in-training may be made by "any person", such as a member of the public or another APEGA member. Receipt of a complaint sets the discipline process in motion.

The Investigative Committee handles complaints. A complaint must be in writing. A mediator designated by the Registrar may assist in settling a complaint within 30 days of the complaint being received. Such a settlement is subject to review by the Investigative Committee. If the complaint is not settled, the matter is referred to the Investigative Committee, which appoints an investigation panel. The panel may terminate the investigation if the complaint is frivolous or vexatious or if there is insufficient evidence of unskilled practice or unprofessional conduct. The complainant may appeal a termination to APEGA's Appeal Board.

If the investigation is not terminated, the Investigative Committee may, if the member has admitted to unskilled practice or unprofessional conduct, recommend an order or penalty (commonly referred to as a "stipulated order") to the Discipline Committee. The Discipline Committee appoints a case manager who reviews the order along with an agreed statement of facts. If the case manager agrees with the order, he or she discusses it with the member. If the member agrees with the order, the order has the same force and effect as one made by the Discipline Committee following a formal hearing. If the case manager or the member rejects the order, the matter must be referred to the Discipline Committee for a hearing.

If the member has not admitted to unskilled practice or unprofessional conduct, or if a stipulated order as noted above is rejected, a formal notice of hearing is served on the member outlining the specific charges the Investigative Committee believes it can prove.

Discipline Committee hearings are held before a panel of three members of the committee. Hearings are open to the public unless the panel directs that a hearing be *in camera*. Evidence is given before the panel by both parties - the Investigative Committee and the member. The Investigative Committee counsel acts as the prosecutor. The member, akin to a defendant, is entitled to be represented by counsel, and often is. Members of the Association (the member complained against and witnesses) can be compelled to testify.

After hearing the evidence from both sides, the panel adjourns to consider the information and make its findings with respect to each of the charges. The findings and the reasons for the findings are served on both parties. If there are findings against the member, both parties are given the opportunity to make submissions on orders for the panel's consideration. The panel considers the submissions and decides what orders it will make. There is a wide range of penalties available, from a simple reprimand to the cancellation of the member's registration along with costs and fines. The decision, which includes the findings, reasons, and orders, is served on both parties. Both have the opportunity to appeal any finding or order to APEGA's Appeal Board within 30 days.

The Appeal Board similarly has a wide range of options at its disposal in considering the outcomes of an appeal. Furthermore, an appellant may apply to the Court of Appeal regarding an order or decision of the Appeal Board.

APPENDIX D - HISTORICAL BACKGROUND

In 1920, the Association of Professional Engineers of Alberta was incorporated by provincial statute. The following year a standing committee was established to formulate a Code of Ethics. Little was accomplished until 1928, when a committee commenced work on revisions to the Engineering Profession Act; recommendations included one that a "Code of Ethics, controlled by the Bylaws, be devised to keep the practice of the members within their respective fields". The Bylaws accompanying the 1930 revisions to the Act included a Code of Ethics to which members and licensees were required to conform. This Code contained ten articles preceded by two "whereas" paragraphs as preamble.

The Council approved a revised Code of Ethics in 1949 which was ratified one year later by the membership and incorporated into the Bylaws. This revised Code was essentially the same as the 1930 Code, modified by minor revisions to the articles, with an additional article on signing and sealing — "He shall sign and seal only those plans, specifications and reports actually made by him or under his personal supervision and direction" — making eleven articles in all. In addition, the Canons of Ethics for Engineers recommended by the Engineers' Council for Professional Development was repeated for use as a guide. These Canons consisted of 28 articles or sections under four headings: Professional Life, Relations with the Public, Relations with Clients and Employers, and Relations with Engineers. While the Canons were intended to be used as a guide, members were expected to conform to the Code. The categories of members to which the Code applied were expanded to consist of members, visitors or licensees, engineers-in-training and students.

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By 1975 the Code of Ethics had evolved into 21 articles relating to professional engineers, geologists and geophysicists. The articles were assembled into three broad groupings — duties to the public, to client or employer, and to the profession. This was supplemented by a booklet published in 1978 - *A Guide to Professional Practice under the Code of Ethics* - which elaborated and explained most of the articles. Except for a 1981 revision to Article 20, conditions for making proposals, this Code remained in effect until the late 1980's.

Council established a Task Force in 1985 to review the Code of Ethics. The review was initiated to improve the ability of the Discipline Committee to apply the Act to the discipline process, and improve internal consistency between individual articles. The membership supported the basic philosophical approach of a general statement of principles as a preamble plus specific, enforceable rules of conduct. A revised Code was developed through a series of drafts and approved at the 1987 Annual General Meeting. The membership also recognized that a supplementary document elaborating on the new Code was required, and the first *Manual of Professional Practice Under the Code of Ethics* was published at that time.

The commentaries on certain articles, as presented in the manual, were being reviewed in 1993 to improve applicability to the earth science members of APEGA; this review evolved to a review of certain articles themselves, and eventually to a review of the entire Code. In early 1996, a subcommittee of the Practice Standards Committee was established to undertake the review. The codes of ethics of almost 25 professional associations were reviewed as to content (rules), presentation, and philosophical underpinnings. At the conceptual level, discussions flowed back and forth between the subcommittee, other committees affected by possible changes (e.g. the Investigative Committee, Discipline Committee, Appeal Board and Practice Review Board), Council and members (through *The PEGG* articles and responses). The topics of discussion illustrate the inherent difficulties in codifying philosophical principles: whether the articles should be prescriptive or broad principles; whether a hierarchy of articles was appropriate; whether some articles applied to a professional's personal conduct as well as to his or her practice.

These wide-ranging discussions eventually converged into consensus on the current Code of Ethics with five rules expressing broad principles of professional conduct, supported by an expanded *Guideline for Ethical Practice*. The Code was approved by Council on February 3, 2000 and ratified by the membership at the Annual General Meeting on April 28, 2000. It was subsequently incorporated into the General Regulation under the *Engineering, Geological and Geophysical Professions Act* in February 2003.