Policy on the Interpretation, and Selected Examples of "Professional Geoscience"
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1.0 INTRODUCTION

The definition and understanding of professional geoscience practice are fundamental to the interpretation of the ***Geoscience Profession Act*** and for the operations of the Association of Professional Geoscientists of Nova Scotia (APGNS).

The practice of professional geoscience in Nova Scotia is defined and regulated by the ***Geoscience Profession Act*** of 2002. The Act grants self-governance to professional geoscientists because it was deemed to be in the public interest to do so. The primary objective is protection of public safety and welfare. The Act does not distinguish between practice as an individual, or a consultant and practice through a company. It applies to all professional geoscience practice.

Professional geoscientists are accountable for their profession generally, for their own professional practice, and for the practice of professionals under their supervision. In addition to preserving ethical standards, professional members and license holders are responsible for ensuring that they, and those under their supervision or control, have maintained appropriate levels of competency.

The following interpretation, explanation and selected examples of what constitutes the practice of professional geoscience under the Act are provided by APGNS and may be considered as a guideline to providers of geoscience services as well as to all users of geoscience services, including the public. This guideline has been created to be used with and complement, rather than replace or supersede, other APGNS documents. APGNS expects considerable variances in interpretation and application based on the size, nature, and practice of each professional organization and individual, and the document is presented in that perspective.

2.0 DEFINITIONS

The ***Geoscience Profession Act*** defines geoscience as:

"performing of any activity that requires the application of the principles of the geological sciences, and that concerns the safeguarding of public welfare, life, health, property or economic interests, including, but not limited to:

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

Similarly, the Act defines a geoscientist as:

"a person who through specialized education, training and experience is skilled in the principles and practice of geoscience."

The Act also defines the practice of professional geoscience as:

"performing any act within or involving geoscience for gain, hire or hope of reward, either directly or indirectly."

3.0 INTERPRETATION

There are three elements to the definition of “professional geoscience”.

- an activity;
- the use of specialized knowledge, experience, understanding and application of the principles of geoscience; and
- safeguarding of the public, property and the environment

4.0 EXPLANATION

4.1 Activity

APGNS considers professional geoscience activities whose undertaking requires the application of the principles of geoscience to be, but not to be limited to:

- advising, planning, designing, collecting, sampling, mapping, logging, surveying, acquiring, examining, investigating, interpreting, processing, analyzing, reporting, evaluating, opining, consulting, certifying, directing, supervising, administering and/or managing;
- these activities may involve the exploration, discovery, development or production of metallic or non-metallic, minerals, rocks, nuclear or fossil fuels, precious stones and/or water resources; or
- relating to geoscientific properties, and conditions or processes that may affect the well-being of the general public, including those pertaining to preservation of the natural environment such as, but not limited to, assessing potential impacts of activities and developments on groundwater and other natural systems, and investigating, evaluating, remediating groundwater, soil, surficial or overburden sediment and bedrock conditions.

4.2 Exemptions

The activities involving the application of the principals of geoscience, such as those listed above, may also be carried out by a person who is training to be a geoscientist or who is registered with APGNS as a Member-in-Training (MIT) and who is under the direct supervision of a professional geoscientist, where the professional geoscientist is taking full responsibility for the work as if it were his or her own work.

Prospectors, defined as individuals acquiring mineral rights or performing work necessary to maintain such rights under the Nova Scotia ***Mineral Resources Act***, are exempted, provided that the individual is engaged in activities that are confined to prospecting and does not hold himself or herself out as a professional geoscientist.

Some of the activities listed may be carried out as part of the work of a professional engineer, who is qualified to undertake geoscience work and who must be registered under the ***Engineering Profession Act***.

Additionally, some of the activities may be carried out as part of the work of a technician or technologist trained in aspects of the geosciences who may be working independently, but whose work in geoscience closely follows prescribed procedures and is conducted with close reference to pre-established standards and norms and who is supervised by a registered professional geoscientist or a registered professional engineer.

4.3 Principles of Geoscience

Geoscience is the study of the Earth and its systems and the practice of geoscience encompasses the use, understanding and application of the principles involved in the study of the Earth and its systems. These include, but are not limited to, such activities as are listed in the section above.

The specialized education, training and experience required in the practice of geoscience are reflected and specified in the ***Geoscience Profession Act*** and the by-laws of the Association as well as the guidelines established by the Geoscientists Canada (GC) and the Canadian Geoscience Standards Board (CGSB).

4.4 Safeguarding of life, property and the environment

Because the work of a geoscientist involves activities that generate information which others use, and upon which decisions are made by others that may affect life, property and the natural environment, APGNS interprets all geoscience activities to require "the safeguarding of public welfare, life, health, property or economic interests".

4.5 Examples

Examples of activities undertaken by a professional geoscientist and require licensure to carry out include, but are not limited to:

- geological surveys,
- geochemical surveys,
- geophysical surveys,
- geomorphological surveys,
- petrology and mineralogy studies,
- mineral exploration and development (metallic or non-metallic, minerals, rocks, nuclear or fossil fuels, precious stones and/or water resources),
- mineral or fossil fuel, oil and gas exploration,
- coal, gypsum, salt, potash exploration,
- mineral or petroleum property evaluation,
- resource and reserve estimation, activities and reporting described under the requirements of National Instruments 43-101 and/or 53-101,
- the filing of mineral assessment reports to the Department of Natural Resources,
- groundwater exploration, evaluation, development, protection, studies,
- surface mapping and sampling,
- underground mapping and sampling,
- geoscientific interpretation and modeling (2-D and 3-D),
- remote sensing interpretation,
- terrain and terrain stability analysis,
- seismic and volcanism analysis,
- environmental investigations, phased environmental site assessments, and environmental impact assessments; and activities described under the NS Environment Contaminated Sites Regulations,
- remedial action planning, site remediation,
- monitoring, compliance, closure, reclamation and restoration,
- reporting under regulatory requirements,
- expert testimony,
- teaching of geoscience and supervision of geoscience students, or
- academic research in geoscience, that will or may be relied upon by other professionals or the public.

These activities could be undertaken or carried out by, or for, a number of proponents, including but not limited to:

- companies, partnerships and/or individuals,
- financial institutions and financial advisors,

- federal, provincial and/or municipal government agencies,
- non-government organizations,
- first nations, or
- educational institutions.

4.6 Titles

APGNS considers the following examples of job titles that represent to the public that an individual is competent for professional practice and is offering or providing professional geoscience services. The list is a sample and should not be considered complete:

- Geoscientist,
- Geologist,
- Geophysicist,
- Geochemist,
- Geomorphologist,
- Earth Scientist,
- Paleontologist,
- Hydrogeologist,
- Environmental Geologist or Environmental Geoscientist, or
- Vice-President, Director or Manager of Exploration or Projects.

The use of these or other descriptors, job or employment titles by the individual or the employer, that may suggest to the public that the individual is trained in geoscience and is holding himself or herself out to be a professional geoscientist, is illegal unless the title applies to an individual who is registered or licensed to practice by the Association of Professional Geoscientists of Nova Scotia under the ***Geoscience Profession Act***.