

ENVIRONMENTAL GUIDELINES FOR PROFESSIONAL ENGINEERS AND GEOSCIENTISTS OF SASKATCHEWAN

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Introduction

The Environment Committee of APEGS, while recognizing the diversity of activities in its membership, has prepared a set of general guidelines for members of APEGS to address sustainability and environmental protection issues. This document has been designed to complement the Code of Ethics of APEGS, and is advisory in nature. The guidelines are intended to increase awareness, provide guidance and encourage proactive environmental stewardship within the APEGS membership. The application of these guidelines is a matter of professional judgement; the consideration of them is not. Professional engineers and geoscientists have a duty to ensure that health, safety and the environment are held paramount.

The viability of ecosystems must be sustained to ensure that the well-being of future generations is not compromised. Sustainability integrates a viable economy, protection of the environment and social well-being to allow these systems to be maintained indefinitely. Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Achieving a sustainable society requires environmental protection, restoration and stewardship. The goal is the improvement of the quality of human life while respecting the carrying capacity (limits) of supporting systems. Members of APEGS are in a position to make significant positive contributions to the economy, the environment and society. The guidelines have been designed to enhance understanding of the roles and responsibilities of engineers and geoscientists and should be applied regardless of the scale of a project or undertaking.

Summary

Professional engineers and geoscientists in Saskatchewan are committed to environmental protection, and the safeguarding of public welfare. Within their field of practice, and exercising professional judgement, members of APEGS shall:

- *Maintain a working knowledge of environmental issues relevant to their field of practice. [Knowledge and Awareness]*
- *Communicate responsibly with government and the public on environmental issues. [Cooperation and Communication]*
- *Ensure the integration of environmental considerations into all aspects of project, product or policy development. [Integration of Environment and Sustainability]*
- *Participate in the development and implementation of responsible measures to protect the environment and use resources in a sustainable manner. [Environmental Responsibility and Leadership]*

Guidelines

Knowledge and Awareness

A working knowledge of environmental issues and solutions is required to permit the practice of professional engineering or geoscience in an environmentally sound manner. Engineers and geoscientists must be aware of the potential impacts of their professional activities on the environment.

- Develop and maintain a reasonable level of knowledge of environmental issues within their field of practice, and relevant regulations, codes, guidelines and environmentally sound practices.
- Develop an awareness of societal goals for environmental protection and sustainability, and stay informed of major issues relevant to achieving these goals.
- Recognize the dependence of future generations on ecosystems and the finite capacity of the environment for resource use and assimilating impacts.
- Recognize the value of early, active and multi-disciplinary (i.e., engineers, biologists, chemists, etc.) involvement in the anticipation, understanding and management of environmental issues.
- Recognize the need for consultative processes to address complex environmental issues.
- Recognize the extent to which activities within a field of practice impact the health and condition of the public and the environment.

Cooperation and Communication

Cooperation with other professionals, governments, clients and the public is required to ensure the protection of the public and the environment. Legislation dictates minimum standards for practices, and a precautionary approach is preferred to eliminate or reduce environmental risks and concerns.

- Cooperate with other specialists to identify the impacts of policies, designs and processes, and strive to develop solutions to eliminate or reduce these impacts.
- Promote compliance with environmentally sound practices.
- Urge clients or employers to incorporate appropriate monitoring of environmental change into all operations and processes, and adjust systems based on the results of monitoring.
- Ensure proper documentation and comprehensiveness to environmental problem solving.
- Communicate in a timely and effective manner with government, the public and clients to permit informed decision making. Establish procedures, as required, to facilitate such cooperative communication.

- Ensure that professional obligations to health, safety and the environment are met.

Integration of Environment and Sustainability into Engineering and Geoscience Work

The integration of environmental risks and impacts into analyses and decision-making is essential to achieving sustainability and environmental protection goals. Early and comprehensive environmental planning are required to improve, sustain and restore public health and the environment.

- Carry out professional duties, as far as possible, in accordance with emerging principles of sustainability and the highest standards of environmental protection. Consider environmental protection and sustainability as integral to any undertaking.
- Consider individual and cumulative social, economic and environmental impacts, including long-term and indirect impacts.
- Ensure the incorporation of environmental protection, socioeconomic and resource sustainability considerations from the earliest stages of project design or policy development.
- Use responsible practices to ensure the protection of the environment, and the sustainable use of resources. Adopt practices, policies and design goals that focus on efficiency, conservation of materials and energy, and waste minimization.
- Assess and recommend alternative concepts, design or methodologies where risks or impacts are expected. Determine, where possible, the range of impacts resulting from an activity, product or policy.

Environmental Responsibility and Leadership

Professional engineers and geoscientists must acknowledge their prominent role in the understanding and achievement of environmental protection and sustainability goals. Members are encouraged to be actively involved in the development and implementation of ideas that improve current designs, procedures and technologies.

- Recognize the role of engineers and geoscientists in achieving sustainability goals, and use this role to benefit the environment and public welfare.
- Strive to protect human health and the environment, through advocating, developing and applying environmental protection and sustainability principles in workplaces.
- Promote proactive environmental planning, and an understanding of the actions required to improve, sustain and restore the environment.
- Share expertise and interact with other disciplines (i.e., engineers, biologists, chemists, etc.) to improve environmental understanding and practices.
- Encourage the enhancement, not simply the protection, of the environment.

- Strive to find solutions compatible with health and environmental protection. Investigate new technologies and solutions, in addition to accepted practice.

Conclusion

The protection of the health and safety of the public, and the condition of the environment and its resources are inherent components of ethics and professionalism for professional engineers and geoscientists. Integrated and consultative planning are necessary to minimize environmental risks and impacts, to achieve sustainability goals and to allow environmental concerns to be cost-effectively addressed. Engineers and geoscientists are involved in the development and use of environmentally sound policies, practices and technologies. These guidelines act to emphasize and help define this role.