Status of Environmental Radiation Protection in Canada

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Outline of Presentation

- Legislative basis
- Rationale
- Practical aspects
- Status and future developments
Legislative Basis

- Nuclear Safety and Control Act
- Canadian Environmental Assessment Act
- Canadian Environmental Protection Act
- Fisheries Act, Metal Mining Effluent Regulations
Rationale

- Regulate to prevent unreasonable risk
- Likely, adverse, significant environmental effects
- Toxic Substances Management Policy
- Pollution prevention, polluter pays, precautionary principle,
- Promotion of sustainable development
- Removing threats to biodiversity
Practical Aspects (1)

- Assessments to support licensing (HHRA, ERA, operational controls, pollution prevention plans, EMS, effluent & environmental monitoring)
- Regulatory standards and guides (S-296, G-296, S-224, G-224)
- Regulatory policy (P-223)
Practical Aspects (2)

- Ecological risk assessment framework
- Radiation dose benchmarks for the protection of biota
- Sediment quality guidelines for protection of benthic invertebrates (Po-210, Pb-210, Ra-226, U)
Status and Future Developments

- All major facilities licensed by the CNSC have conducted HHRA and ERAs for radionuclides and hazardous substances released (including heat) to the environment.

- Proposed research for RBE of alpha emitters for species relevant to Canadian environment and for endpoints relevant to ERAs.