



CRPA-CARST Symposium on Radon and Radiation Protection

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Organization

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Title

Non-Ionizing Radiation: Health Effects and Exposure Guidelines

Abstract

Non-ionizing radiation, particularly EMF, has been making headlines in recent years. There is no shortage of speculative material on the subject online, and offers of ancillary services aimed at detection and mitigation abound. The issue is also gaining traction with regulators, employers, workers, and the public. As a result, radiation protection professionals may face the challenge of addressing EMF-related concerns. To do this responsibly, one must be able to interpret measurements, address perceived health risks, and evaluate electromagnetic interference (EMI) concerns involving active implanted medical devices. Through its Information Service in Radiation Safety, the Radiation Safety Institute of Canada (RSIC) receives EMF questions and survey requests on a continuous basis. As the public interest grows, we observed a clear shift from such questions as "What is EMF and is it safe?" to more in-depth queries, "What standards apply, what is the right measurement protocol and how to communicate risk?"

The proposed presentation will review applicable Canadian and international guidelines, including Health Canada's Safety Code 6, ACGIH Threshold Limit Values, ICNIRP recommendations, IEEE standards, and IEC frameworks for medical device electromagnetic compatibility. Drawing from field experience across Canada, the session will examine common client concerns, investigation challenges, instrumentation selection, and survey strategies for both low-frequency and radiofrequency environments. Practical mitigation approaches and professional reporting considerations will be discussed, equipping radiation protection practitioners with evidence-based tools to conduct rigorous EMF assessments and confidently address stakeholder concerns. The Radiation Safety Institute of Canada has been offering EMF survey and training services for decades. We would appreciate the opportunity to share our experience and lessons learned in the field.