Canadian Radiation Protection Association
Association canadienne de radioprotection

Canada's network of radiation safety specialists
Réseau canadien des spécialistes en radioprotection

NRC's Role As Canada's National Metrology Institute: What It Means For Ionizing Radiation Measurements

Presented by: Malcolm McEwen, National Research Council

Duration: 1 hour

Cost : Members - $30 / Non-Members - $30 (+ 13% HST)

CRPA(R) Maintenance Points Allotment: 0.25 points for every 2 hours of CRPA Info Sessions. No Course Completion Certificate will be issued so please track as needed for your records.

Abstract

The National Research Council is Canada's largest research and technology organization, founded in 1916 to carry out applied research to address industrial and societal needs. A specific mandate of the NRC is to fulfil the role of Canada's National Metrology Institute (NMI) and this is realized through the Metrology Research Centre. NRC Metrology is responsible for the realization of the international system of units (SI) and disseminates measurement standards through calibration and technical services to a wide range of end users. The Ionizing Radiation Standards group within the Metrology RC is very active in addressing measurement issues in radiation protection, radiation therapy and industrial applications of ionizing radiation. Through i) the development of primary measurement standards for dosimetry, radioactivity, and neutron fields, ii) the dissemination of these standards through calibrations, and iii) participation in research collaborations and best-practice guidance, it supports users across all applications of ionizing radiation to ensure that point-of-use measurements are accurate, traceable, and equivalent.

This presentation will explore the history and mandate of the NRC and describe the worldwide system of metrology that provides the basis for all measurements. The ultimate focus will be activities in ionizing radiation metrology in Canada and, specifically, research highlights and projects that directly overlap the work of CRPA members.

Learning Outcomes

i) Understand the role and activities of the NRC

ii) Understand the international system of metrology that ensures equivalence between measurements around the world

iii) Understand the activities of the Ionizing Radiation Standards group at the NRC, how it impacts radiation protection, and how collaborations can further improve radiation measurements in Canada.

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Couse Outline

Topic #	Duration (minutes)	Topic
1	10	NRC – what it is and what it does
2	15	The Convention of the Metre and how it ensures confidence in measurement
3	20	Ionizing Radiation Standards at NRC – capabilities and activities related to radiation protection
4	15	Q&A