



Current status of the international standards on radiation protection instrumentation

M. Voytchev ^a and P. Chiaro ^b

^a Institut de Radioprotection et de Sûreté Nucléaire (IRSN), PSN-RES, SCA, BIREN, Saclay, B.P. 68, 91192 Gif-sur-Yvette Cedex, France, e-mail: miroslav.voytchev@irsn.fr

^b Oak Ridge National Laboratory, Oak Ridge, TN, USA

1. Introduction

The **International Electrotechnical Commission (IEC)** is the leading global organization that publishes consensus-based International Standards and manages conformity assessment systems for electric and electronic products, systems and services, collectively known as electrotechnology.

IEC/SC 45B “Radiation Protection Instrumentation” prepare standards that address instrumentation used for:

- the measurement of ionizing radiation in the workplace, to the public, and in the environment for radiation protection purposes
- illicit trafficking detection and identification of radionuclides
- radiation-based security screening

2. Current projects in illicit trafficking control instrumentation

- IEC 62618 “Spectrometric Alarming Personal Radiation Devices (SPRD) for detection of illicit trafficking of radioactive material” (publication in 2012)
- IEC 62694 “Backpack-type radiation detector (BRD) for detection of illicit trafficking of radioactive material” (publication in 2014)
- IEC 62755 “Data format for radiation instruments used in the detection of illicit trafficking of radioactive materials” (publication in 2012)



3. Current projects in active dose rate monitors and passive dosimetry

- IEC 61005 Ed. 3 “Neutron ambient dose equivalent rate meters” (publication in 2014)
- IEC 62743 TS “Electronic counting dosimeters for pulsed fields of ionizing radiation” (publication in 2012)
- IEC 62387 “Passive integrating dosimetry systems for personal and environmental monitoring of photon and beta radiation” (publication in 2013)



4. Current project in warning equipment for criticality accidents

- IEC 60860 Ed. 2 “Warning equipment for criticality accidents” (publication in 2014)



5. Current projects in measurement of environmental radiation

- IEC 61275 Ed. 2 “Measurement of discrete radionuclides in the environment – In-situ photon spectrometry system using a germanium detector” (publication in 2012)
- IEC 61017 “Portable, transportable or installed X or gamma radiation ratemeters for environmental monitoring” (publication in 2015)
- IEC 61577-2 Ed. 2 “Radon and radon decay product measuring instruments - Part 2: Specific requirements on radon measuring instruments” (publication in 2014)



6. Other current project

- Radiation protection instrumentation – Environmental, electromagnetic and mechanical performance requirements (public. in 2012)