

American National Standard Portable Exposure Rate Meters for Homeland Security

Accredited by the American National Standards Institute

Developed by the
National Committee on Radiation Instrumentation, N42

ANSI N42.33-2019
(Revision of ANSI N42.33-2006)

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Secretariat
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Abstract: This standard describes design criteria, performance requirements, and performance tests for portable exposure rate meters.

Keywords: ANSI N42.33, design criteria, initial response [consequence management], performance requirements, performance tests, portable radiation detectors

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Introduction

This introduction is not part of ANSI N42.33-2019, American National Standard Portable Exposure Rate Meters for Homeland Security.

This standard is the responsibility of the Accredited American Standards Committee on Radiation Instrumentation, N42. The standard was approved on N42 letter ballot.

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American National Standard Portable Exposure Rate Meters for Homeland Security

1. Overview

1.1 Scope

The purpose of this standard is to specify performance criteria and type-test methods used to evaluate portable radiation detection instruments. These instruments are used for detection of photon emitting radioactive materials and photon exposure rates. Instruments are used for the purposes of detection, interdiction, and prevention. Instruments may include alarms to indicate an increase in exposure rate.

This standard does not apply to instruments that are primarily intended to provide a measurement of dose equivalent rate.

In a departure from other DHS-related ANSI N42 instruments standards, some issues of radiological/nuclear initial response (R/N initial response) are discussed. A tactical description of R/N initial response is provided in this revised standard in Annex H and is generally linked to related R/N initial response instrumentation situations in ANSI N42.32 [B11], ANSI N42.34 [B12], ANSI N42.35 [B14], ANSI N42.38 [B16], ANSI N42.43 [B19], ANSI N42.53 [B23], and directly linked to ANSI N42.49A [B21]. This direct link is from a portable instrument with low exposure rate range to a portable instrument of a much higher exposure rate range. This instrument range change may be necessary in some R/N initial response situations.

1.2 Purpose

This standard specifies the performance criteria and test methodologies for portable radiation detection instrumentation used for detection of photon emitting radioactive materials for Homeland Security applications. Annex H, R/N initial response applications for preventive radiological/nuclear detection (PRND) equipment, provides guidance and considerations for use of PRND equipment in R/N initial response situations.