

American National Standard

Radiation Protection Instrumentation Test and Calibration

Secretariat for N13

Health Physics Society

Secretariat for N42

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American National Standard

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Foreword

(This Foreword is not a part of American National Standard Radiation Protection Instrumentation Test and Calibration, ANSI N323-1978.)

The American National Standards Institute Joint Subcommittee N13/42 which was responsible for the development of this standard was established by authority of the Chairman of American National Standards Institute Committees N13 and N42 to represent the interests of the respective parent committees. The Joint Subcommittee comprises manufacturer and user membership in about equal numbers.

The ANSI Committee on Radiation Protection, N13, and Instrumentation, N42, which reviewed and approved this standard, had the following representatives at the time of approval:

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J. Sohngen, *Secretary*

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American Health Physics Society.....	J.J. Cherubin
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American Nuclear Society	Frank W. Manning Oak Ridge National Laboratory
American Society of Mechanical Engineers.....	P. E. Greenwood Newport News Shipbuilding and Drydock Co.
American Society of Safety Engineers	Vacant
Atomic Industrial Forum.....	Vacant
Health Physics Society.....	Dr. J. B. Horner Kuper Brookhaven National Laboratory
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Radiation Protection Instrumentation Test and Calibration

1. Scope

This standard establishes calibration methods for portable radiation protection instruments used for detection and measurement of levels of ionizing radiation fields or levels of radioactive surface contamination. For purposes of this standard, portable radiation protection instruments are those which are carried by hand to a specific facility or location for use. Although this standard is specific to portable radiation protection instrumentation, the basic calibration principles may be applicable to radiation detection instrumentation in general.

Included within the scope of this standard are conditions, equipment, and techniques for calibration as well as the degree of precision and accuracy required. Alpha, beta, photon, and neutron radiations are considered. Passive integrating dosimetric devices such as film, Thermoluminescent, and chemical dosimeters are outside the scope of this standard, but the basic principles and intent may apply. In cases where integrating capability is included along with rate measurement or detection, this standard shall apply.

Throughout these criteria, four verbs have been used to indicate the degree of rigor intended by the specific criterion. “Shall” and “will” indicate a minimum criterion that must be met, while “should” and “would” indicate a criterion that is recommended as good practice and is to be applied when practical.

2. Definitions

Technical terminology used in this standard is generally consistent with the definitions in the American National Standard Glossary of Terms in Nuclear Sciences and Technology, N1.1-1976 [1]¹ and ICRU Report 20 [2]. The following terms are defined specifically for use within this standard.

¹Numbers in brackets refer to those of the references in Section 7 of this standard.