

American National Standard— Traceability of Radioactive Sources to the National Institute of Standards and Technology (NIST) and Associated Instrument Quality Control

Sponsor

National Committee on Radiation Instrumentation, N42

Accredited by the

American National Standards Institute

Secretariat

The Institute of Electrical and Electronics Engineers, Inc.

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Abstract: A mechanism for manufacturers to establish traceability of radionuclide sources that are certified for radionuclide activity; concentration; or alpha, beta, x-, or gamma-ray emission rate to the National Institute of Standards and Technology (NIST) is described.

Keywords: instrument quality control, NIST, quality, quality assurance, quality control, radiation instrumentation, radioactivity, radionuclide sources, traceability

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Introduction

(This introduction is not a part of ANSI N42.22-1995, American National Standard—Traceability of Radioactive Sources to the National Institute of Standards and Technology (NIST) and Associated Instrument Quality Control.)

This standard is the responsibility of the Accredited Standards Committee on Radiation Instrumentation, N42. Committee N42 delegated development of this standard to Subcommittee N42.RM. Drafts were reviewed by Committee N42, Subcommittee N42.RM, and other interested parties, and the comments received were utilized in producing the standard as finally approved. The standard was approved by N42 letter ballot of 18 November 1994.

At the time it approved this standard, the Accredited Standards Committee on Radiation Instrumentation, N42, had the following members:

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1. Overview

1.1 Scope

The standard provides a description of the criteria necessary for manufacturers to maintain and assure measurement traceability of radionuclides to the National Institute of Standards and Technology (NIST). These criteria are provided in the following areas:

- a) Quality assurance program
- b) Facilities and equipment
- c) Participation in a NIST Measurements Assurance Program (MAP)
- d) Certificates

1.2 Purpose

The purpose of this standard is to describe a mechanism for manufacturers to establish traceability of radionuclide sources that are certified for radionuclide activity (Bq); concentration (Bq/g); or alpha, beta, x-, or gamma-ray-emission rate (s^{-1}) to NIST. Traceability requires the implementation of a quality assurance program and participation in a MAP as described in this standard.

2. References

This standard shall be used in conjunction with the following publications. If the following publications are superseded by an approved revision, the revision shall apply.