



American National Standard

ANSI/HPS N13.12-2013

Surface and Volume Radioactivity
Standards for Clearance

Approved: May 6, 2013

American National Standards Institute, Inc.



Published by

Health Physics Society 1313 Dolley Madison Blvd. Suite 402 McLean, VA 22101

Copyright $\ensuremath{\mathbb{G}}$ 2013 by the Health Physics Society. All rights reserved.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without prior written permission of the publisher.

Printed in the United States of America

ANSI/HPS N13.12-2013

This standard was developed under the authority of the Health Physics Society Accredited Standards Committee (ASC) N13, Radiation Protection. The Working Group responsible for this standard had the following members:

William E. Kennedy, Jr., Chairperson Dade Moeller & Associates, Inc.

Ricky A. Bowser Duke Energy Carolinas, LLC

Wayne M. Glines
Dade Moeller & Associates, Inc.
(formerly with the U.S. Department of Energy, Richland Operations Office)

Debra McBaugh
Dade Moeller & Associates, Inc.

(formerly with the Washington State Department of Health, Radiation Protection)

Robert A. Meck Science and Technology Systems, LLC (U.S. Nuclear Regulatory Commission, retired)

Phillip D. Newkirk U.S. Environmental Protection Agency, retired

Andrew Wallo III
U.S. Department of Energy

Robert C. Woodard Energy Solutions

The Working Group chairperson would like to recognize the Working Group members and consultants responsible for the development of the August 1999 version of this standard, whose contributions laid the groundwork for this revision:

Working Group Members

David E. Bernhardt Rogers & Associates Engineering Corp.

Arthur E. Desrosiers Bartlett Services, Inc.

Stephen W. Duce International Technology Corporation

Wayne C. Gaul Chem-Nuclear Systems

Tracy A. Ikenberry Dade Moeller & Associates, Inc.

Alfred N. Johnson Scientific Ecology Group, Inc.

Robert A. Meck U.S. Nuclear Regulatory Commission

Francis R. O'Donnell
Oak Ridge National Laboratory

Jack M. Selby M.H. Chew and Associates, Inc.

Fredrick P. Straccia
Radiation Safety & Control Services, Inc.

Alden N. Tschaeche Nuclear Standards Unlimited

Robert C. Woodard Canberra Industries

Consultants

Shin-Yew Chen Argonne National Laboratory

> Hong-Nian Jow Sandia National Labs

Kenneth L. Swinth Health Physics Consultant

Toshihide Ushino Southern California Edison

Andrew Wallo III U.S. Department of Energy

Oversight for development of this standard was provided by the N13 Administrative Committee, which had the following members:

Chair: Tracy A. Ikenberry

Vice-Chair: Michelle L. Johnson

Secretary/Standards Coordinator: Nancy Johnson

Medical and Operational Health Physics Section Manager: Glenn Sturchio

Environmental Section Manager: J. Matthew Barnett

External Dosimetry Section Manager: Charles A. (Gus) Potter

Instrumentation Section Manager: Michelle Johnson (acting)

Internal Dosimetry Section Manager: Elizabeth (Liz) M. Brackett

This standard was consensus-balloted and approved by members of the ANSI/HPS N13 Committee on December 21, 2012. At the time of balloting, the Committee had the following membership:

Chairperson Vice Chairperson

American Association of Physicians in Medicine (AAPM)

American College of Occupational and Environmental Medicine

American Industrial Hygiene Association (AIHA)

American Iron and Steel Institute American Mining Congress American Nuclear Insurers American Nuclear Society (ANS)

Conference of Radiation Control Program Directors (CRCPD)

Council on Ionizing Radiation Measurements and Standards (CIRMS)

Council on Radionuclides and Radiopharmaceuticals, Inc. (CORAR)

Health Physics Society (HPS)

Institute of Electrical and Electronic Engineers (IEEE)

Institute of Nuclear Materials Management

National Council on Radiation Protection and Measurements (NCRP)

National Registry of Radiation Protection Technologists (NRRPT)

Nuclear Energy Institute (NEI)

U.S. Department of Commerce

U.S. Department of Energy

U.S. Department of Defense

U.S. Department of Homeland Security U.S. Environmental Protection Agency U.S. Nuclear Regulatory Commission

U.S. Navy

Individual members

Tracy A. Ikenberry
Michelle L. Johnson
Robert A. Phillips
Lynne Fairobent (alt.)*
Bryce Breitenstein

Ray Johnson

Anthony La Mastra Scott C. Munson Bob Oliveira Ali Simpkins Earl Fordham Chris Soares

Leonard Smith Sandy Perle Wayne Glines (alt.) Mike Unterweger

Harrison (Skip) Kerschner

James Cassata
Dwaine Brown
Ralph L. Andersen
Thomas J. McGiff
Janna Shupe (alt.)
Joel Rabovsky
Peter O'Connell (alt.)
Tim Mikulski
John Cuellar (alt.)

Don Potter
Mike Boyd
Donald A. Cool
Luis A. Benevides

Eric Darois
Joseph P. Ring
L. Max Scott
Toshihide Ushino

^{*}Alternate.