

# Standards Actions

Technical Standards Program Newsletter

April 2015



U.S. DEPARTMENT OF

**ENERGY**

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## TECHNICAL STANDARDS ACTIVITIES

### TWO NEW ANSI STANDARDS OF INTEREST

Future plans include incorporating American National Standards Institute (ANSI) N14.36, *Measurement of Package and Conveyance Radiation Levels and Service Contamination* and ANSI N14.7, *Guidance for Packaging Type A Quantities of Radioactive Materials* in Department of Energy (DOE) contracts. These two standards are not currently invoked or referenced in any DOE Directives or Standards. However, there is some discussion about referencing or invoking these standards in DOE Order, 460.2A, *Departmental Materials Transportation and Packaging Management*.

*\*The following two articles have been reprinted by permission from ANSI.*

### **Measurement of Package and Conveyance Radiation Levels and Surface Contamination (N14.36)\***

*Written by: Ashok Kapoor, STSM N14.36 Subcommittee Chair, and Jim Williams, CHP, N14.36 Subcommittee Vice-Chair*

On March 27, 2013, the American National Standards Institute (ANSI) Accredited Standards Committee N14 on "Packaging and Transportation of Radioactive and Non-Nuclear Hazardous Materials" approved ANSI N14.36, *Measurement of Package and Conveyance Radiation Levels and Surface Contamination*. The standard should minimize variability in contamination and radiation level measurements to ensure compliance with regulatory limits, thus promoting public and occupational health and safety associated with the transportation of radioactive materials. The subcommittee formed to develop the standard was composed of representatives from the radioactive material packaging and transportation industry in the United States and Canada, and included nongovernmental organizations, and government agencies (both federal and state).

In the development of this standard, the subcommittee took into consideration existing operating and administrative procedures, methods,

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instruments, and processes used in industry and government. Certain basic general requirements in the standard are applicable to all radioactive material packages; however, the risk-informed, graded approach was considered by the subcommittee in determining specific requirements in the standard.

The contents of this standard include the processes and procedure descriptions, equipment specifications, and training required for consistent, reliable, and reproducible measurements of radiation levels and surface contaminations on and near packages and conveyances containing radioactive material. The effective implementation of the standard renders confidence in the package and conveyance radiation and contamination measurements and helps ensure protection of public health and safety.

For more information, please contact Ashok Kapoor (ashok.kapoor@hq.doe.gov), Jim Williams (james.williams@dot.gov), Matt Feldman, the N14 Chair (feldmanmr@ornl.gov) or Ron Natali, the N14 Secretary (N14Secretary@gmail.com). The standard can be purchased from ANSI at: <http://bit.ly/122rWF8>.

### Guidance for Packaging Type A Quantities of Radioactive Materials (N14.7)\*

On April 15, 2013 ANSI Accredited Standards Committee N14, "Packaging and Transport of Radioactive and Non-Nuclear Hazardous Materials" approved ANSI N14.7, *Guidance for Packaging Type A Quantities of Radioactive Materials*. The subcommittee formed to develop the standard was comprised of representatives from the radioactive material packaging and transportation industry in the United States and Canada and government agencies.

The purpose of the standard is to provide guidance to individuals responsible for developing the design of packagings for transport of radioactive material limited to Type A quantities of radioactive material. This standard is also intended to assist those who test, evaluate, fabricate, fill, ship, or otherwise perform functions related to Type A packages in accordance with applicable regulatory requirements. Type A packaging is one of the most commonly used packagings for shipment of radioactive material by industry and the government. Type A packaging is intended to provide containment of contents and shielding integrity during routine and normal conditions of transportation, including rough handling or minor mishaps (loading/unloading operations).

The U.S. Department of Transportation (DOT) allows self-certification of a Type A package provided that the shipper/offeror of the package offered for transportation ensures that it fully meets applicable DOT regulations. The self-certification or an approval for transportation is a result of fully documented demonstration of performance-through testing, evaluation, or analysis-of a package design, including its specific content.

The standard scope does not include Type A packaging containing fissile material in accordance with 10 CFR 71.55 that requires a certificate of compliance from the U.S. Nuclear Regulatory Commission or the U.S. Department of Energy.

For more information, please contact Matt Feldman, the N14 Chair (feldmanmr@ornl.gov) or Ron Natali, the N14 Secretary (N14Secretary@gmail.com). The standard can be purchased from ANSI at: <http://bit.ly/13EuSEK>.



## DOE COMMERCIAL GRADE DEDICATION APPLICATION HANDBOOK EFFORTS

The Department of Energy (DOE) has found it increasingly more difficult to find suppliers for safety systems, structures and components that are qualified to American Society of Engineers (ASME) Nuclear Quality Assurance (NQA)-1, *Quality Assurance Requirements for Nuclear Facility Applications*. Due to the lack of NQA-1 qualified suppliers, commercial grade dedication (CGD) efforts have become more important to DOE.

The NQA-1 commercial grade dedication process allows designation of an item for use in a nuclear safety application when an item is unavailable from a supplier with a quality assurance program meeting NQA-1 requirements, whether the supplier is the Original Equipment Manufacturer (OEM) or another entity. The CGD process, when appropriately applied, can assure that a component verified through a CGD package will perform its intended safety function. Voluntary consensus standards organizations have addressed the CGD process. ASME

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NQA-1, Subpart 2.14 provides a basic structure of the CGD process, but does not make available examples of well-defined CGD packages. Despite these efforts, challenges remain in the development of adequate CGD engineering and documentation packages.

The purpose of the proposed Handbook is to provide various types of CGD example packages and help eliminate known challenges within the DOE. Well-defined example CGD packages can provide the necessary perspective to improve the quality of packages being developed in the future throughout the DOE.

The Office of Quality Assurance (AU-33), along with the joint efforts of the Energy Facility Contractors Group, has approved a Project Justification Statement to develop a DOE CGD Handbook to address the growing concerns of DOE Programs. The Handbook is expected to be published in early 2016. For any questions, please contact Duli Agarwal, Office of Quality Assurance (AU-33), at [duli.agarwal@hq.doe.gov](mailto:duli.agarwal@hq.doe.gov).

## DOE TECHNICAL STANDARDS UPDATES

The following is an overview of recent Technical Standards actions. A complete list of on-going Department of Energy (DOE) Technical Standards actions can be found on the "Monthly Status Reports" posted on the Technical Standards Program Web site: [energy.gov/ehss/monthly-status-reports](http://energy.gov/ehss/monthly-status-reports).

### Technical Standards New Project Registrations

- **DOE Freight Container Handbook** (Proposed New Document)  
**Contact:** Ashok Kapoor **Phone:** 202-586-8307  
 Office of Packaging and Transportation (EM-33)

### Project Justification Statement Posted in RevCom for 15-day Review

- **DOE System Analysis and Evaluation of the Intrusion Detection and Assessment Systems Technical Standard** (Proposed New Document)  
**Contact:** Mister T. McDonnell **Phone:** 301-903-0889  
 Office of Security Policy (AU-51)

### Technical Standards Posted in RevCom for 60-day Review

- **DOE-Standard (STD)-1129-YR, Tritium Handling and Safe Storage** (Proposed New Document)  
**Contact:** Bill Weaver **Phone:** 301-903-7038  
 Office of Safety, Security and Quality Programs (EM-40)
- **DOE-Handbook (HDBK)-3012-YR, Team Leader's Good Practices for Readiness Reviews** (Proposed Revision)  
**Contact:** James Heffner **Phone:** 202-586-3690  
 Office of Nuclear Facility Safety Programs (AU-32)

### Recently Approved Standards

- **DOE-HDBK-1216-2015, Environmental Radiological Effluent Monitoring and Environmental Surveillance**  
**Contact:** Colleen Ostrowski **Phone:** 202-586-4997  
 Office of Environmental Policy and Assistance (AU-22)
- **DOE-STD-1146-2007 (Reaffirmed 2015) General Technical Base Qualification Technical Standard**  
**Contact:** David Chaney **Phone:** 509-845-4300  
 National Nuclear Security Administration (NNSA)

### Cancellation/Removed from the TSP WebPage

- **DOE-HDBK-1010-1992, DOE Fundamentals Handbook, Classical Physics**
- **DOE-HDBK-1012-1992, DOE Fundamentals Handbook, Thermodynamics, Heat Transfer and Fluid Flow, Volumes 1, 2, & 3**
- **DOE-HDBK-1013-1992, DOE Fundamentals Handbook, Instrumentation and Control, Volumes 1 & 2**
- **DOE-HDBK-1014-1992, DOE Fundamentals Handbook, Mathematics, Volumes 1 & 2**
- **DOE-HDBK-1015-1993, DOE Fundamentals Handbook, Chemistry, Volumes 1 & 2**
- **DOE-HDBK-1017-1993, DOE Fundamentals Handbook, Material Science, Volumes 1 & 2**
- **DOE-HDBK-1084-1995, Primer on Lead-Acid Storage Batteries**  
**Contact:** Brendan Burns **Phone:** 202-586-2671  
 Office of Nuclear Facility Safety Programs (AU-32)

## TECHNICAL STANDARDS ACTIVITIES

### UPCOMING MEETINGS & CONFERENCES

#### American Society of Mechanical Engineers International Conference on Nuclear Engineering *ICONE23*

**When:** May 17-22, 2015  
**Where:** Chiba, Japan

#### 2015 Energy Facility Contractors Group Spring Meeting Integrated Safety Management & Quality Assurance Subgroup

**When:** May 18-22, 2015  
**Where:** Las Vegas, NV

#### American Society of Mechanical Engineers 2015 Annual Meeting

**When:** June 5-10, 2015  
**Where:** Jacksonville, FL

#### American Nuclear Society Annual Meeting Nuclear Technology: *An Essential Part of the Solution*

**When:** June 7-11, 2015  
**Where:** San Antonio, TX

#### National Fire Protection Association Conference and Expo

**When:** June 22-25, 2015  
**Where:** Quincy, MA

#### American Society of Mechanical Engineers Power & Energy 2015 Conference: *Energy Solution for a Sustainable Future*

**When:** June 28-July 2, 2015  
**Where:** San Diego, CA

#### International Conference on Nuclear Criticality Safety

**When:** September 13-17, 2015  
**Where:** Charlotte, NC

#### 2015 American Nuclear Society Winter Meeting & Nuclear Technology Expo

**When:** November 8-12, 2015  
**Where:** Washington, DC

#### American Concrete Industry Fall 2015: *Constructability*

**When:** November 8-12, 2015  
**Where:** Denver, CO

#### Nuclear and Facility Safety Program Workshop 2015

**When:** May 4-8, 2015  
**Where:** Las Vegas, NV



The Department of Energy (DOE) Nuclear and Facility Safety Programs Annual Workshop will be held this May in Las Vegas, featuring tracks for the Facility Representative (FR), Safety System Oversight (SSO), Fire Safety (FS) and Readiness communities. Distinguished speakers from inside and outside the Department will appear, and the Facility Representative of the Year Award, Safety System Oversight Annual Award, and the Walter F. Maybee Fire Safety Award will be presented and nominees honored. If you can't attend in person, some sessions will be available via Webcast.

The workshop will feature training opportunities, sharing of best practices and lessons-learned, thought-provoking discussions, and an award ceremony recognizing outstanding performance by DOE safety professionals. We encourage and welcome presentations from the respective communities. Training and workshop sessions will be held May 4-7, with a cultural event on May 8.

For additional information and to register, see the workshop registration page at:

<http://energy.gov/ehss/2015-nuclear-facility-safety-programs-workshop>.

To learn more about the DOE Technical Standards Program or to view the *Standards Actions* Newsletters, visit the Web site:

**<http://energy.gov/ehss/services/nuclear-safety/departments-energy-technical-standards-program>**