

Standards Actions

Technical Standards Program Newsletter

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U.S. DEPARTMENT OF
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TECHNICAL STANDARDS ACTIVITIES

The Purpose and Process of a Voluntary Consensus Standard

The National Technology Transfer and Advancement Act of 1995 mandates that all federal agencies use technical standards developed by voluntary consensus standards bodies, as opposed to developing unique government standards. But why use a voluntary consensus standard? Why use NQA-1, *Quality Assurance Requirements for Nuclear Facility Applications*, which is published by the American Society Mechanical Engineers (ASME)?

A *standard* is a set of technical definitions, instructions, requirements, and guidelines that provide for consistent and comparable results. Standards range in length from a few paragraphs to hundreds of pages. They are written by committees comprised of a systematic, international, cross-section of the specific industry's technical experts. These experts volunteer their time, knowledge, and experience by routinely meeting to reassess their standard to ensure it is adequate and represents the cutting-edge of industry needs and lessons learned.

Developing, issuing, and maintaining a voluntary consensus standard involves committee membership and participation. For example, the ASME NQA-1 standards committee represent the users, manufacturers, consultants, academia, testing laboratories, and government regulatory agencies involved with nuclear facilities. The committee keeps a balance of members among the various interest categories so that no one group dominates the standard. All committee meetings are open to the public, and procedures are used to govern its processes including voting on changes to the standard. Changes to the standard are approved through consensus voting as defined by the American National Standards Institute (ANSI). The votes and comments on technical documents during the approval process must be documented and available to the public. Any individual may appeal any action or inaction of a committee relating to its membership or the standard itself. In addition, if anyone feels that due process has not been provided, they can make an appeal to a supervisory board, and finally to the Board on Hearings and Appeals. More often than not, more than one voting cycle is necessary to resolve comments.

Once consensus is achieved, the revised draft of the standard is submitted for a public online review. During this review, anyone may submit comments, to which the committee must respond. In addition, the standard must then undergo an ANSI and supervisory board review. Once all considerations and comments have been satisfactorily addressed, the standard is approved and published. However, the work of the committee is not over as the standard is meant to be a living document that is continually being reviewed, updated, revised, and reissued to reflect new developments and technical advances as well as incorporate lessons learned from industry.

The ASME NQA-1 Standard for *Quality Assurance Requirements for Nuclear Facility Applications* serves as a global nuclear industry standard responsible for the safety and quality of nuclear facilities and activities. This voluntary consensus standard is routinely updated to reflect industry experience and current understanding on how to achieve safe, reliable, and efficient cradle-to-grave control of the nuclear industry's activities.

In summary, Voluntary Consensus Standards:

- are written by committees of technical experts who continually assess the standard to ensure it is adequate and effective;
- have committee members that are comprised of a cross-section of users, manufacturers, consultants, academia, testing laboratories, and government agencies who volunteer their time, knowledge, and experience;
- include comments for new and modified information for standards from committee members and the public; and
- are approved via consensus voting of the final drafts.

The use of ASME NQA-1 helps the industry, the Department of Energy, and most importantly, the public.

Written by Taunia Sandquist Van Valkenburg

As a chemical engineer, quality assurance expert, and manager, Taunia has worked at DOE facilities across the country for the last 30 years. Taunia is currently the ASME NQA-1 Standard Vice-Chair and is the Environmental Compliance Program Manager at Los Alamos National Laboratory.

Technical Standards Help Increase Confidence in Security Systems

The Department of Energy (DOE) makes a tremendous investment in the performance assurance of its security systems, particularly for those systems which are used to protect assets involving national security, or to mitigate threats which could pose a significant danger to the health and well-being of the DOE workforce and the public. In doing so, our confidence, and the confidence of Departmental and National Leadership is greatly improved, despite the implementations of very complex protection strategies at certain DOE sites. The approaches used generally involve performance testing, which can range from rather simplistic checks of an alarm system or video cameras, to very complex full-scale force-on-force exercises that are designed to replicate realistic threats and attack methodologies we might expect to see. The necessary use of large numbers of personnel and equipment make these exercises very expensive, and between the rapid movement of personnel and vehicles (often in the dark) and the fact that pyrotechnics may be involved, the safety of the participants and nearby employees is of utmost importance. The number of exercises that we can afford to conduct is limited, so it is important to conduct them safely and in a manner that provides the greatest possible realism, while deriving the greatest benefit from a performance assurance perspective. One of the keys to ensuring the quality and consistency of this performance testing is the use of proven and repeatable procedures and protocols. In recent years, the DOE and NNSA performance testing community has been assembling subject matter experts to capture the testing protocols that have been shown to work most effectively, and then to publish them as technical standards.

The overarching performance testing technical standard used by the security performance testing community is DOE-STD-1231-2018, *Preparation and Conduct of Protective Force Performance Testing*, which covers everything associated with the management, planning, conduct, and test result analysis that must be considered. Although this standard was only recently published, plans are already underway to begin discussing in October how it can be improved and updated in the future, because threats, equipment and skills used in the tests evolve continuously. While this standard is very comprehensive, it doesn't address every topic of performance testing, and in particular, certain aspects of performance testing that are very specialized. For example, the use of canine explosive detection teams requires a significant amount of unique skills, and the testing of these skills is not easy. The performance testing community therefore developed another technical standard, DOE-STD-1225-2017, *Canine Performance Testing Protocol*, for the small number of sites that rely on canines for screening purposes. Many other agencies and law enforcement organizations use canines, and they rely on a variety of mature testing protocols to certify their canine teams as meeting a minimum standard. DOE policies, in fact, invoke a technical standard developed by the law enforcement community for the purpose of certifying our canine teams. But none of these organizations have ever considered how to implement the use of canines in a large-scale force-on-force exercise, or how to draw useful effectiveness data from such participation. Without this data, and similar data from other protection elements, it's impossible to model the effectiveness of the overall protection system, so this standard plays an important role in DOE's protection strategy.

As a final example of the usefulness of technical standards to the security performance testing community, the development of another technical standard has been initiated. The technical standard for canines previously described relies on the use of high-quality test sources to present to the canines to determine if it can be detected. Canines must be able to detect a variety of explosives in order to adequately mitigate this threat, and some explosives are much easier to detect than others. A major issue is that the test sources can become cross-contaminated during handling and while in storage, which could invalidate a performance test. Also, it may potentially lead to a false sense of security because one might conclude the canine team is capable of finding a difficult-to-detect explosive, when in fact they have only practiced detecting an easy one. The new standard under development will address the handling and storage of the test sources to minimize the potential for cross-contamination and is expected to lead to more confidence in associated performance testing and in the effectiveness of the overall security system.

The need for additional or updated technical standards to support the performance assurance requirements of DOE and NNSA will be continuously evaluated and relied upon to help instill confidence in the protection of the significant assets entrusted to the Department.

Written by Carl A. Pocratsky, P.E., U.S. Department of Energy, Office of Security (AU-50)

New RevCom Function - Subject Areas and Automatic Notification

RevCom is implementing a new feature with focus on predefined Subject Areas (Groupings). Both Preparing Activities (PAs) and Technical Standards Managers (TSMs) can now use Subject Areas to assign and notify reviewers more efficiently. This is an optional feature that will have no impact on TSMs' users and groups already in place.

Longstanding practice has been for TSMs to create user accounts (Subject Matter Experts/Delegates) and assign appropriate users for each review. Some TSMs have created groups which allow assigning a specific set of reviewers based on their areas of expertise. After assigning reviewers, the TSMs then generated notification from the RevCom system.

Auto-assigning Reviewers

Subject Areas can now be assigned to existing groups, or TSMs can create new groups with assigned Subject Areas. A PA who submits a document for RevCom review can also assign one or more Subject Areas.

When the document is posted to RevCom and the review is opened, all groups/users assigned to specific Subject Area(s) will receive immediate notification. TSMs will no longer be required to assign and notify users that have been grouped according to Subject Areas. The TSMs can assign and notify additional users to the review after the initial notification. Those added reviewers will be notified manually as has been the common process.

Updating Groups

The Subject Areas assigned to Technical Standards will be available for TSMs to use in updating their group listings. The list will be developed further as Standard and Handbook topics demand.

Subject Areas

The following is a basic list of Subject Areas.

Air Cleaning and HEPA Filters	Fire Protection
Behavioral Safety	Hoisting and Rigging
Biota Dose Assessment (BDA)	Human Factors/Ergonomics
Chemical Safety	Industrial Hygiene/Occupational Safety
Combined Metrology/Accreditation	Meteorology
Construction Safety	Performance-Based Management
Electrical Safety	Pressure System Safety—Explosive Safety
Emergency Management	Quality Assurance
Environmental Management	Safety by Design
Explosive Safety	Welding

Please direct questions or suggestions for Subject Areas to Jeff Feit (jeffrey.feit@hq.doe.gov).

Written by Patricia Greeson, Director, Support Services, Doxcelerate

DOE Technical Standards Updates

The following is an overview of recent Technical Standards actions for August, July and September 2019. A complete list of on-going DOE Technical Standards actions can be found on the “Monthly Status Reports” posted on the Technical Standards Program website: www.standards.doe.gov

Project Justification Statements Posted in RevCom for 15-day Review

Proposed Revisions

DOE-STD-5506-2007, *Preparation of Safety Basis Documents for Transuranic (TRU) Waste Facilities*
POC: Robert Nelson, Office of Safety Management (EM-3.111) Phone: 509-376-8800

DOE-STD-1112-2016, *Department of Energy Laboratory Accreditation Program for Radiobioassay*
POC: James Dillard, Office of Worker Safety & Health Policy (AU-11) Phone: 301-903-1165

Technical Standards Posted in RevCom for 60-day Review

Proposed Revisions

DOE-STD-1217-2016, *Department of Energy S & S Survey Self-Assessment & Planning, Conduct and Reporting Technical Standard*

POC: Natasha Wright, Office of Security Policy (AU-51) Phone: 301-903-4804

DOE-SPEC-1142, *2001 Beryllium Lymphocyte Proliferation Testing (BeLPT)*

POC: Daniela Stricklin, Office of Domestic & International Health Studies (AU-13) Phone: 301-903-0947

Proposed New Document

DOE-STD-XXXX-YR, *Canine Explosive Training Aid Management*

POC: Carl Pocratsky, Office of Security (AU-52) Phone: 301-903-2769

Recently Approved Standards

DOE-STD-1232-2019, *U.S. Department of Energy Voluntary Protection Program, Volume 1 - Program Structure* (Volume 1 of 4)

POC: Richard Caummisar, Office of Worker Safety & Health Assistance, (AU-12) Phone: 806-681-1926

DOE-HDBK-1230-2019, *Commercial Grade Dedication Application Handbook*

POC: Duli Agarwal, Office of Quality Assurance & Nuclear Safety Management Programs (AU-32) Phone: 301-903-3919

DOE-HDBK-1233-2019, *DOE Operations Security (OPSEC) Handbook*

POC: Linda Ruhnaw, Office of Security Policy (AU-51) Phone: 301-903-2661

DOE-STD-1175-2019, *Senior Technical Safety Manager Functional Area Qualification Standard*

POC: Al MacDougall, National Training Center (EA-50) Phone: 505-845-5549

Change Notice 2 to DOE-STD-1312-2014, *Protective Force Contingency Planning Technical Standard*

POC: Richard Faiver, Office of Security Policy (AU-51) Phone: 301-903-4613

DOE-STD-1112-2019, *Department of Energy Laboratory Accreditation Program for Radiobioassay*

POC: James Dillard, Office of Worker Safety and Health Policy (AU-11) Phone: 301-903-1165

Upcoming Events and Workshops

Energy Facility Contractors Group (EFCOG)

Integrated Safety Management & Quality Assurance Meeting

When: October 29-31, 2019

Where: Y-12 National Security Complex, Oak Ridge, TN

American National Standards institute

World Standards Week 2019

When: November 4-8, 2019

Where: Washington, DC

ANS Winter Meeting & Expo

When: November 17-21, 2019

Where: Washington, DC

EFCOG

Training Working Group Meeting

When: December 3-6, 2019

Where: Nevada National Security Site, Las Vegas, NV

To learn more about the DOE Technical Standards Program or
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www.standards.doe.gov