March 2004

The Standards Forum and Standards Actions

Visit the Technical Standards Program Web Site at
http://tis.eh.doe.gov/techstds/

DOE Technical Standards Program Document Status 02-23-2004

Activity Summary

In Conversion – 4

In Preparation – 37

Out for Comment – 21

Published in February – 1

5-year Review Status

Revision in Progress – 13

Reaffirmation in Progress – 26

Cancellation Pending – 1

Cancellation in Progress – 3

Inside This Issue

TSP Manager's Note – March 2004

The Technical Standards Program Changes Continue

We have completed the change of guard for the Technical Standards Program (TSP). Rick Serbu has successfully retired and become a resident of Tennessee and Mary Haughey has assumed the role of TSP Program Manager. It is yet another change in a program already steeped in transition as we learn to perform roles previously assumed so aptly by Don Williams and his staff at Oak Ridge. We already miss the wealth of knowledge that Rick Serbu carried after so many years in the program and we are relying heavily on Jeff Feit and Norm Schwartz for the corporate history of the program in the coming months. At the same time, we are very glad we have been able to retain the part-time services of Don Williams to help fill the gaps of our knowledge.

Mary Haughey

We want to take this opportunity to provide a roadmap for some of the TSP changes in this transition. First, we will make a few changes to this publication. In addition to the Notes from the TSP Program Manager, the pertinent articles from standards publications, and the standards actions that are normally a part of this publication, we plan to include an article or two on activities within the TSP. This month, Norm Schwartz is including two articles on his recent activities: functional area qualification standards (FAQS) and topical committees. The fact that Norm is contributing two articles is an indication of how heavily we have come to rely on him. In addition, we would like to highlight a significant standard published each quarter. In the following pages, you will find an article on DOE HDBK-1169-2003, *Nuclear Air Cleaning Handbook*. The long-awaited publication of this handbook was the culmination of many years of effort by a number of people throughout the DOE complex. It was a major success for Jim Slawski who carried the torch the final distance to publication and is a feat worthy of an article.

You may have already noticed some changes in scope of the *Standards Actions*. We have added appliance standards among others to the list of highlighted standards actions in an attempt to recognize that our customer base in DOE is broader than the traditional activities addressed by the Office of Environment, Safety and Health (the office where the TSP resides). Consistent with this new goal, we have included an article on Hydrogen Standards by Karen Hall. We are hoping to work more closely with offices such as the Office of Energy Efficiency, the Office of Fossil Energy, and the new Office of Legacy Management, and would like their feedback on how we can serve their needs better. At the same time, if the addition of these standards in the *Standards Actions* does not serve a useful function and the larger volume of the *Standards Actions* obscures the safety standards, we would like feedback on that as well.

We have also reprinted an article from the Defense Standardization Program Journal on *Voluntary Standards—Why Engage?* While much of the information imparted in this article is familiar to those with extensive standards experience, it ably states the case for government involvement in standards development organizations (SDOs). We will continue to encourage DOE involvement in SDOs, particularly international SDOs.

A major change in the TSP is the introduction of RevCom for TSP. The addition of this capability should streamline the review and comment process for both the reviewers and the preparing activities. In the last months before joining the TSP, Mary Haughey issued both a DOE technical standard through the TSP old review process and a DOE Manual through the

(Continued on page 2)

Directives System RevCom process. In comparing the two processes, it was plain that the automatic notifications and the electronic transmissions of the RevCom process led to a smoother, faster, and more disciplined process. For those of you who have used the Directives System RevCom process, your experience should ease your transition to RevCom for TSP. For those of you new to RevCom, there may be a period of cursing and complaining common to the learning process for any new software system, but we believe the change will be worthwhile. Let us know if you have questions. If it were not for the patience and instruction of Ilir Angjeli of the Directives System and Jim McDonald of Innovative Web Application, Inc. (IWA), Mary's introduction to RevCom would not have been so successful. It is her turn to help others through that evolution.

If you have visited the TSP web page lately, you may find that it has not kept up with the changes occurring in the TSP. Please be patient with us. In order to minimize the impact of our changes on an already stretched information management staff in EH-33, we are holding our web page changes until we have stabilized our efforts. When we are confident that we know where we need to go with that page, we will begin the reconstruction.

We are still exploring the process of gaining access to non-government or voluntary consensus standards. This is a high priority for the TSP in the coming months. We will keep you informed of our progress.

In the last *The Standards Forum*, Rick Serbu introduced you to some of the new members of the TSP. In this edition, we want to reintroduce you to the members of the TSP and tell you what each of us will be doing in the coming months. We hope this will help you find the right person when you have a question. Alternatively, you may contact Mary Haughey or Jeff Feit at Jeffrey.Feit@eh.doe.gov or (301) 903-3927. In addition, you can send any queries to the central TSP mailbox at TechStdPgm@eh.doe.gov.

Mary Haughey

In January, Mary Haughey (pronounced "Hoey") assumed the role of Program Manager of the TSP. She will be performing many of the activities previously performed by Rick Serbu, including running the monthly Technical Standards Manager Committee conference calls. She has previously developed a number of DOE technical standards, as well as DOE directives. She has worked for a DOE program office (Defense Programs), the Nuclear Regulatory Commission, and Westinghouse Electric Corporation. Mary is the second longest member of the Office of Nuclear and Facility Safety Policy (Jeff Feit is the longest!). She will be your point of contact for RevCom questions. She can be contacted at Mary.Haughey@eh.doe.gov or (301) 903-2867.

Jeff Feit

Jeff Feit

Jeff is now the Assistant Manager of the TSP and is Mary's alter ego. If you can't reach Mary, call Jeff. Jeff is also our web expert. Call him directly if you have questions on the web pages, Meta tagging, web access, PDF files, and web postings. He can be contacted at Jeffrey.Feit@eh.doe.gov or (301) 903-3927.

Norman Schwartz

As indicated earlier, the TSP has learned to rely heavily on Norm in the last several months. Norm is our expert and point-of-contact for functional area qualification standards and topical committees. Norm has become the resident expert on the Technical Standards Information System (TSIS) which was brought up from Oak Ridge and, as such, should be relied upon for the complex questions regarding TSIS history, point-of-contact updates, and historical TSP information, including TSP standards actions. Norm is also the TSM contact for Technical Standards Managers (TSMs) for standards registration. Contact Norm at Norm.Schwartz@eh.doe.gov or (301) 903-2996.

Satish Khanna

Satish Khanna

Satish is relatively new to the Technical Standards Program. He is responsible for the production of the monthly *Standards Actions* and the quarterly, *The Standards Forum and Standards Actions*. Please contact him at Satish.Khanna@eh.doe.gov or (301) 903-4114, if you have questions on the contents of those publications or you have an article to suggest or contribute.

Kathy Easley

Donna Carr

Donna Carr and **Kathy Easley**

Donna and Kathy are Technical Support Analyst contractors providing coordination and production support to the Office of Nuclear and Facility Safety Policy and to the TSP in particular. Their TSP activities include assisting with the preparation of standards and related correspondence for issue, records management and publication support for the two TSP newsletters mentioned above. With the transition of the TSP files from Oak Ridge they set up the hardcopy files and they have become adept with TSIS. Consequently, they know better than any of us where to find electronic or hard copies of TSP documents. Please contact them if you are looking for a document and they will endeavor to assist you. Contact Kathy at Kathy.Easley@eh.doe.gov or (301) 903-4439 or Donna at Donna.Carr@eh.doe.gov or (301) 903-0078.

Developing Codes and Standards for a Hydrogen Energy Future

By Karen Hall

Author Karen Hall

Karen Hall is the vice president of technical operations for the National Hydrogen Association. She facilitates the coordination of hydrogen codes and standards activities among industry, government, and standards development organizations.

This Article was published in the ASTM Standardization News, January 2004. DOE has reprinted the Article with the permission of the ASTM and the author.

In the United States and worldwide, there is a growing interest in using hydrogen energy technologies. Hydrogen offers many opportunities to meet our growing need for energy with minimal harm to the environment. But first, let's talk a bit about what hydrogen is, and what it is not.

Hydrogen is not an energy source – it is an energy carrier. When people talk about the "hydrogen economy," they are referring to a future scenario where hydrogen, along with electricity, is used to deliver quality power where and when it is needed. Like electricity, hydrogen must be produced from another energy feedstock. Most industrial hydrogen today is produced by reforming fossil fuels, which are rich in hydrogen. Electrolysis, the splitting of water into hydrogen and oxygen, is another process for producing hydrogen. However hydrogen is created, energy is used. Much of the electricity in the United States is produced from fossil fuels - such as burning coal - or from nuclear energy. Renewable energy such as wind, photovoltaic, and hydroelectric power plays a small but growing role in the production of power. Producing hydrogen from electrolysis powered by renewable energy results in a carbon-free energy that can be used in a variety of applications. Incorporating carbon-sequestration techniques into more conventional methods of hydrogen production will significantly reduce carbon emissions associated with production. In any case, the resulting hydrogen is clean at the point of use, enabling growing energy consumption without increasing harmful emissions. The true value of a "hydrogen economy" is the ability to have a diverse range of sources, allowing us to generate, move, and use energy where and when we want it. Hydrogen also has the potential to be the "common denominator" that allows large-scale production of a single fuel that can be used in stationary, transportation, and portable power applications.

Hydrogen energy technologies include fuel cells, reciprocating internal combustion engines, turbines, electrolyzers, and other technologies that use or produce hydrogen. Hydrogen's unique properties enable more efficient and environmentally benign application of conventional technologies as well as enabling advanced emerging fuel cell technologies.

Where We Stand Today

Hydrogen is a well-known industrial chemical, the properties of which are among the most documented in science. Hydrogen is safely used on a daily basis in hundreds of industries, in direct proximity to communities. The safe production and storage of hydrogen are proven commercial technologies. The commercial availability of hydrogen as a fuel will drive the applications and variety of configurations of these technologies even further.

Hydrogen energy technologies are commercially available today in niche applications, such as space propulsion, power systems, and industrial applications where their unique benefits bring special value. However, using these technologies in early products employing hydrogen as an energy carrier requires economic support to make them commercially viable and affordable.

As with all fuels, including gasoline, hydrogen can be used safely if its physical and thermal properties are understood and if appropriate codes, standards, and guidelines are followed.

For hydrogen energy systems to achieve widespread commercialization, codes, standards and regulations must be put in place to allow the systems to be installed or operated in the intended environment, such as residential and commercial buildings and garages, onboard vehicles, and other places where these systems will one day operate. This process, to be successful, involves consensus among experts in technology, safety, and integration. As these systems may be used worldwide, the process must include national input and international collaboration.

The Next Steps

Cost is the most often-quoted barrier to the large-scale commercialization of new technologies. This is certainly the case with fuel cells, which convert hydrogen or hydrogen-rich fuels to electricity. They are being explored by leading industries worldwide for use in stationary power, transportation, and portable power applications. The personal

computer, cellular telephones, and the calculator demonstrated that the cost of new high-tech gadgets comes down as manufacturing techniques are honed, and markets for the technology grow. In addition, fuel cells have unique advantages over conventional systems that provide high value for niche applications. Thus it is not unreasonable to expect cost reductions. Interestingly, this is likely to occur through the need for reliable portable power to replace bulky batteries, such as those found in personal computers, cellular telephones, and calculators. Industry experts see portable power applications for hydrogen fuel cells as a likely pathway to increase production and reduce costs of fuel cell technology in general.

Government Priorities

The primary drivers in the United States today for moving toward a hydrogen energy future are:

- National energy security;
- Environmental stewardship; and
- Economic prosperity.

Distributed energy resources, such as turbines, advanced gensets, and fuel cells, provide opportunities to meet increased power needs without increased transmission infrastructure. These systems can operate independently of the grid. When they are operated on hydrogen or hydrogen-blended fuels, significant reductions in urban air pollution and carbon dioxide emissions will be realized. The hydrogen-powered car also offers the possibility for transportation free from emissions and greenhouse gases. In many ways, hydrogen offers a strategic opportunity to meet increasing U.S. energy needs in a highly efficient way without increasing greenhouse gas emissions.

A transition to hydrogen energy systems will facilitate economic growth by reducing our dependence on oil from volatile regions, our foreign trade imbalance, and the effects of oil price swings, while at the same time increasing domestic economic activity.

The United States is well positioned to transition from oil and gas as primary energy carriers to hydrogen. Hydrogen will then be the principal energy carrier, along with electricity, that will be used in all sectors of society and generated from all available feed stocks.

Coordination Efforts for Standardization

The need for a broader array of hydrogen codes and standards for commercial applications is being addressed by a number of qualified organizations. The National Hydrogen Association, with support from the U.S. Department of Energy and industry, is working on many of these efforts, including participation in related national and international working group efforts on hydrogen safety. In addition, the NHA provides a forum for gaining expert consensus on codes and standards activities through participation in NHA Codes and Standards Workshops, publication of articles in the Hydrogen Safety Report, and technical presentations at hydrogen energy meetings.

The NHA has a diverse group of members, including energy companies, industrial gas suppliers, hydrogen and fuel cell component manufacturers, automotive manufacturers, national laboratories, and many others. Over 25 percent of NHA membership consists of international or multinational organizations. All are dedicated to commercializing hydrogen energy systems. The development of codes and standards removes significant barriers to commercialization. As hydrogen continues to move toward commercialization, the National Hydrogen Association's objective is to continue the process of identifying and developing national and international codes and standards necessary for international trade and local permitting.

A growing number of organizations are developing codes and standards for hydrogen energy systems, which may include fuel cells, containers, connectors, refueling stations, safety, and infrastructure. Many of these efforts have hydrogen-specific requirements. The NHA assists standards development organizations by providing hydrogen safety expertise, and assists interested parties worldwide in taking part in the development of consensus codes and standards to enable the widespread commercialization of hydrogen energy systems. The National Hydrogen Codes and Standards Coordinating Committee facilitates interaction between the organizations to speed information transfer and reduce duplication of effort.

NHA, along with several other organizations, assisted the National HCSCC with an effort to create a living database of hydrogen codes and standards for the United States that we call "the matrix," which has status and contact information for each effort. The data is sorted by application, and is therefore a useful tool in identifying the codes and standards relevant for a particular hydrogen project. The HCSCC hopes that this matrix will eventually include all known codes and standards activities relevant to each application shown on the matrix. It will include a short description of the document (to help the user determine if it applies), status of the effort, how to order the document once published, and whom to contact to get involved or to get more information.

After national standards are developed, they are often used in the development of international standards. Therefore, national standards should be viewed as precursors to international standard development. Once national standards are developed, it is worth evaluating the effectiveness and breadth of their application.

Voluntary Standards-Why Engage?

Standards encourage interoperability, create markets, and facilitate change.

By Richard Forselius, Sc.D.

This article was reprinted with permission from Defense Standardization Program Office, in the Department of Defense (DoD) and was published in the Defense Standardization Program Journal, October/December 2003.

The undisputable fact is that standards add value to our lives every day. Standards create efficiencies, and they create markets for manufacturers. Standards allow interoperability between otherwise dissimilar pieces of equipment. Standards are facilitators for change. Implicitly, standards pervade our society, and we submit to their requirements in every waking hour. Standards are based on the soundest technical judgment of subject-matter experts from "materially affected parties." The consensus opinions of technical experts are captured in published standards. Those standards are widely available to all.

Standardization is a natural consequence of the manufacturing process, borne out of manufacturing necessity. It has deep historical roots in the industrial revolution, when both mass production and interchangeability became essential and when agreements within industrial competitors in the area of general product attributes commenced. The use of standards allows organizations to manufacture faster, better, and cheaper. Written industry-wide agreements, recorded as standards, have allowed the achievement of economies of scale.

Often, industry agreements have preceded national or international policy. The standards that are the result of these agreements, developed by the consensus voice of materially affected parties, have preceded law or international convention. Through the consensus development process, standards allow industries to self-regulate and, often, present an opportunity to promote industries as self-regulating entities. Further, competition is then based on performance to technical documents, not the differences in technology.

Genesis

Standards have evolved over many hundreds of years in response to ever-growing needs. Many everyday standards we conform to have deep roots. I provide a few examples:[1]

- Railroad track. The development of a standard railroad track gauge made possible the interchangeability of railroad cars. Most early American railroads had their own gauges, but finally, President Lincoln ordered that all gauges be 5 feet. Although the railroad industry did not agree on this standard at the time, an eventual agreement stated it should be 4 feet 8 1/2 inches throughout the United States. However, this does not agree with the track gauge of some other countries, such as in South America where the distance between rails is 5 feet 6 inches, or in South Africa where it is 3 feet 6 inches.
- Standard parts. At the end of the 18th century, in New Haven, CT, Eli Whitney, the "father of standardization," received a contract from Thomas Jefferson to produce 10,000 muskets. To demonstrate interoperability, Whitney appeared before Congress with a pile of parts and assembled 10 muskets by picking standard parts at random.[2]
- Interchangeability. In the 19th century, Joseph Whitworth, an engineer and toolmaker, promoted standardization as a means of obtaining interchangeability, illustrated by a simple candlestick and candlestick holder. In an 1841 paper presented to the British Institution of Civil Engineers, he urged adoption of uniform pitches and dimensions of screw threads. His thread design, known as the Whitworth thread, became widely adopted. He also developed a system of standard gauges, a pioneering feat.
- Safety. In 1922, a safety code for grinding wheels was developed to succeed 14 different regulations from 14 states regarding the use of abrasive wheels. This code stated the requirements for storing, handling, operating, and mounting wheels, as well as the requirements for flanges, hoods, chucks and guards for protection, and other suitable materials.
- Global standardization. Today's global standardization initiatives had their genesis at the first formal conference on international standards held in Paris in 1875. Of 19 nations attending, 17 signed a covenant on weights and measures. This provided for the French government to declare neutral territory in the Park of St. Cloud for the International Bureau of Weights and Measures.

These few vignettes of the history of standards illustrate how ubiquitous the use of standards has become in our daily lives. One can also imagine the difficulties we would encounter in today's world had it not been for the development of such standards.

Evolution

Until the 1990s, for government contractors, standards meant Mil-Specs and MilStds, which were developed as an acquisition vehicle. The acquisition reform initiative meant prescriptive MilSpecs and MilStds would be replaced by performance-related documents and handbooks. Many former MilSpecs and MilStds are now managed by standards development organization (SDO) committees, industry consortia, and others. The government's role in managing these

[1]Examples were adopted from "Through History with Standards," an American Standards Association document reprinted in Rowen Glie, *Speaking of Standards* (Boston: Cahners Books, 1972). [2]*Defense Standardization Program Journal*, March/June 2003, p. 2.

documents has diminished from what it was historically.

To create government influence in voluntary SDO committees, it is necessary to actively engage in dialogue and participate. Participation allows for influencing the requirements in standards and provides a forum for dialogue about new industry developments. Participation also sends a message to industry that your organization is a serious player in the field and identifies you as a viable partner.

When there is a rationale for creating new standards, a leading role can be played in the development of those standards. Development of new necessary standards, as well as confirmation of and modifications to existing standards, enhances the U.S. voluntary standards system as a whole. It is important to recognize where relevant work is occurring and to decide to engage or follow another strategy.

Value

Standards are invaluable. As pointed out by a National Research Council committee of 16 experts in the fields of engineering design, education, practice, management, and research,

> Use of standards can save design time, reduce uncertainty in performance, and improve product quality and reliability. It can also lead to economies of scale. Companies often define standard component lists and procedures with the goal of obtaining these advantages and then fail to enforce their use. New designers, failing to recognize the advantages of standards, tend to choose parts from their own knowledge or from the most familiar or convenient catalog. Unless a firm establishes standards and makes their importance known, any benefits that might result from their use will almost be foregone.[3]

U.S. policymakers and arms of the U.S. government, such as the National Institute for Standards and Technology, should be concerned about international barriers to entry for U.S. products. Barriers to entry make it more difficult for industry to provide a product to a particular country or trading block. A released standard, for example, might contain a requirement for all products to be manufactured to the metric system. This may require reengineering of products designed domestically for export to Europe, as an example. This will cause inefficiencies in creating truly global products and, therefore, add to design and manufacturing costs. Where practical, it is important to recommend and conform with international standards and work to eliminate barriers to entry, to enhance the value of the U.S. national voluntary standards system.

Impact of Acquisition Reform

In the 1990s, acquisition reform took on preeminent importance in DoD. Walter B. Bergmann, chairman of the Defense Standards Improvement Council and director of DoD Acquisition Practices, said:

> The reform achieved during the first Clinton Administration, by far the most effective of the many attempts at acquisition reform, is now in the hands of the DoD acquisition work force. Certainly in the areas of specifications and standards reform, the goals, principles and rules are pretty much laid out. We can fine tune them, make changes where we've made misjudgments, but to do more would be counterproductive.
>
> Now we are down to the business of translating the principles into the specifications and standards that we shape and apply as we go about the business of acquisition. Most important to achieving accuracy in that translation is an understanding of the goals we are trying to achieve. In June of 1994, we began the process of changing the default way we describe requirements to performance for some compelling reasons.
>
> We can't afford to buy the systems we need tomorrow without minimizing today the cost of system development, acquisition and support. We need to tap the state-of the-art technology in the commercial market and reduce the time to field new systems to avoid fielding systems with grossly outdated technology. We need to broaden the industrial base from which we draw in meeting defense requirements in times of peace and conflict.
>
> Writing specifications in performance terms and eliminating manufacturing and management standards are means to an end. We intend to give our suppliers flexibility in the way they produce and our work force flexibility in the way they buy - so that the goals of our reform are achieved.
>
> Recognizing performance specifications and knowing the new rules is not enough; we must also have a clear vision of what we are trying to achieve. As you go about your daily business, reworking specifications and developing alternatives to military standards, let the framework for your decisions be achievement of the goals. A military standard published as a non-government standard, not embraced by commercial industry does not achieve our goals. A performance specification containing overwhelming or unique testing requirements does not advance our goals.[4]

"Strategic standardization is the way business leaders leverage standards, both technical and management, to build and sustain a competitive advantage..."

[3]National Research Council, Committee on Engineering Design Theory and Methodology, *Improving Engineering Design:Designing for Competititive Advantage* (Washington, DC: National Academy Press, 1991). [4]The Standardization Newsletter, February 1997, pp. 1-2.

The flip side is that the government's role in the voluntary standards system is also assessed continually by U.S. business. In testimony before Congress, U.S. business leaders state strong support for continuing the present voluntary standards system. Testimony at Department of Commerce hearings reaffirmed the need for better cooperation between the private sector and the Department of Commerce to strengthen and improve participation in international standardization and to increase U.S. competitiveness globally.

Success in Committees

A key element of strategic standardization is to involve company representatives in industry SDO committees to ensure that adopted standards represent the organization's strategic interests for important products in emerging markets.

The concept of strategic standardization is broader than a commitment industry design specifications. It also recognizes that product design, manufacture, and assembly is a systems process in which many different pieces have to be assembled to produce a working unit. When all components and equipment meet interchangeability and compatibility standards, enormous advantages may be realized in areas such as manufacturing, repair, servicing, and upgrading.

Most products might be described as bundles of copyrights, patents, and licenses. Having a company's intellectual content accepted by industry SDOs increases its value and facilitates the assembly of key licenses required to produce (or manufacture) a product. Often, certain proprietary manufacturing techniques enhance the value of a product. Both design and manufacturing involve processes of identifying key patents and licenses to ensure compliance with technical specifications. Companies also strive to hold investment cost at affordable levels in product design, development, and manufacturing through standard, repeatable processes.

Standardization strategies are not limited to manufacturers or manufacturing processes. There are many standardization issues for service organizations and governmental activities (for example, health care, education, financial transactions, transportation and aviation, and building codes). These standards are also very important commercially.

Since markets have become more global, standardization issues have become more important in successful competitive entry. Compliance with the diversity of local standards is more efficiently resolved if products are designed and produced to specifications recognized not only by firms worldwide, but also recognized as compliant by third-party testing organizations (such as Underwriters Laboratories or the Performance Review Institute) through conformity assessments.

The development of global standards is not a new process. For decades, the International Organization for Standardization, or ISO, founded in 1946, and its sister organization, the International Electrotechnical Commission, founded in 1906, have endorsed standards for all kinds of products and processes. These organizations should be thought of as central clearinghouses where standards developed by technical committees from many different nations are resolved and harmonized.

Strategic Standardization Management

It is impossible for an organization not to be at least implicitly involved in standards in some way. However, considering the availability of widely recognized SDOs and the global pressures for standardization, it is a superior business strategy to address standardization tasks explicitly. The activities involved in addressing the management of standardization efficiently have been labeled as strategic standardization management, or SSM®, a registered trademark of the American National Standards Institute (ANSI). This concept was first advanced by Robert Walsh at ANSI and published in a 1993 paper by Diego Betancourt of Polaroid Corporation. Strategic standardization management is a macro process and management leadership discipline that investigates, defines, recommends, and implements standardization strategies and policies. Through SSM, managers assess and optimize their organization's influence in industry SDO committees.

To achieve desired results in international bodies such as ISO's technical committees, the SSM process must work efficiently in relevant organizations, such as manufacturers and other companies, within industry technical advisory groups and SDO committees, as well as ANSI. Exceptions to this rule exist; for example, manufacturers that dominate worldwide markets. These standards are developed by other than the consensus of all materially affected parties through non-ANSI-accredited organizations and are also widely accepted (for example, aerospace and the Aerospace Industries Association's National Aerospace Standards).

Several successful U.S. businesses credit the strategic adoption of standards in processes and products, or strategic standardization, with helping them achieve industry leadership. Strategic standardization is the way business leaders leverage standards, both technical and management, to build and sustain a competitive advantage or avoid a competitive disadvantage.

The SSM process suggests the use of a systems approach to managing standardization activities within an organization. SSM is an ongoing philosophy that it is in the organization's best interest to influence SDO committees through informed representation and to modify or initiate standards that reflect evolving technologies and the optimum business and

product plans of the organization. Influence is accomplished through participating, increasing technical and management competencies, gaining competitive information, assigning metrics to key processes, and managing achievements against goals.

SSM is a full-time activity in which an organization creates structures and designates personnel as subject matter experts to complete needed tasks. The following are dominant activities in an organization's SSM process:

- Identify standardization opportunities that will increase organizational advantages in the global marketplace in concert with business and strategic plans.
- Develop appropriate SSM assessment and implementation models.
- Ensure active, integrated, efficient participation in leadership positions in SDOs other standardization worldwide.
- Continually assess the organization's SSM activities and their impact on organizational businesses and products.
- Coordinate design, manufacturing, environmental, and quality planning and practices internally.
- Investigate the approaches of organizations competing within an industry to identify best practices (benchmarking).
- Monitor emerging management systems standards worldwide.
- Promote SSM as a key business strategy.

These activities affect almost all parts of an organization and require a system of management to ensure that they are adequately performed. Because SSM tends to be diffused within the organization and focuses on the core competencies of organization, it requires continual monitoring; it cannot be left to chance. A level of organizational commitment beyond just "hiring better engineers" is warranted.

Summary

The historic and consensus-based and voluntary U.S. national system adds considerable value in defining the parameters under which conforming products operate. Acquisition reform has changed the model under which the government specifies and procures products from industry. Many former MilSpecs and MilStds are now maintained by private-sector SDOs. SSM is recommended for ensuring effective influence in SDO committees. To influence the voluntary standards system, it is essential to actively engage and participate. Without informed participation, the standards system will lose its viability. It is important to study where technical work is occurring, to keep abreast of emerging issues, and to provide influence.

Some Definitions

A number of definitions of "standard" exist:

- A document, established by consensus and approved by a recognized body, that provides for common and repeated use, rules, guidelines, or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context (ISO/TC 115).
- A document that establishes engineering and technical requirements for processes, procedures, practices and methods that have been decreed by authority or adopted by consensus (EIA-632 V0.9).
- A document that establishes uniform engineering or technical criteria, methods, processes, and practices (MIL-STD-100G, MIL-STD-962).
- A set of technical definitions and guidelines developed so that items can be manufactured uniformly and provide for safety and reliability (Y14.100M-1997).
- A standard that controls the medium or process of exchanging data between a sending and a receiving system. Data exchange is defined in terms of presentation formats and transformations of those presentation formats (MIL-HDBK-59B).

About the Author:
Richard Forselius, Sc.D., is Manager, Engineering Records, at Hamilton Sundstrand, a United Technologies Company, in Windsor Locks, CT. He is a member of ANSI's Board of Directors and the ANSI Company presented Dr. Forselius with its Meritorious Service Award for his exemplary contributions to ANSI. Dr. Forselius also is active in numerous professional organization such as the Aerospace Industries Association's Engineering Management Committee.

Topical Committee Developments

By M. Norman Schwartz, Office of Nuclear & Facility Safety Policy, EH-22

There are currently twenty-six registered DOE Topical Committees (TC) shown on the Technical Standards Program (TSP) Home Page. The Accreditation TC and the Metrology TC have combined and their joint charter and bylaws have been reviewed and accepted by the TSP. Work is proceeding toward the creation of a Software Quality Assurance (SQA) Topical Committee to take charge of the toolbox codes on the TSP Home Page. A Safety By Design Topical Committee has been organized and the group's charter was signed by Rick Serbu, former TSP Manager, before he retired last year. A Point of Contact for the Committee has not been formally selected. Therefore, this twenty-seventh topical committee is not yet shown on the TSP Home Page.

Author M. Norman Schwartz

Nine topical committees appear active in support of various DOE missions. The DOE Accreditation/Metrology Committee has a new Point of Contact to replace Richard B. Pettit, who retired in November 2003. Thomas F. Wunsch, Ph. D, is the new Point of Contact for Accreditation/Metrology. Biota Dose Assessment, Construction Safety, Meteorology, Fire Protection, Quality and Safety Management SIG, and DOE Contractors Supplier Quality Information Group (SQIG) have agendas rich in standards-related activities. The revised Hoisting and Rigging Standard, DOE-STD-1090-2001, written by the Hoisting and Rigging Technical Advisory Committee, a DOE topical committee, will go into coordination in a month. Earl Carnes will replace Margaret Sturdivant as Point of Contact for the Procedures Topical Committee.

Several topical committees are relatively inactive due to leadership changes, reorganizations, or mission inactivity. Robert M. Waters, a Department of Energy behavioral scientist and the Point of Contact for both the Behavioral Safety TC and the Human Factors/Ergonomics TC retired in December 2003. These Committees were his creation and remain without leadership. John Yoder retired at the end of 2002 leaving the Nuclear Safety Training Committee without a Point of Contact. The Committee's Home Page, embedded in the TSP Home Page, has been replaced by the Web Page for the DOE Office of Training and Human Resources Development. As a result, new chairpersons are being sought for these Committees. To volunteer, please contact M. Norman Schwartz as shown at the end of this article. The Point of Contact for the Packaging and Transportation SIG (PATSIG Topical Committee) has been Theodore S. Needles, a World War II veteran, who retired a couple of years ago. Participants in this group were scattered to different DOE sites during reorganizations. Both participants and a chairperson are sought for this Topical Committee. The Backup Power Working Group lost its funding years ago and was disbanded by John Fredlund who was transferred to DOE's Albuquerque Operations Office.

The Topical Committee section of the TSP Home Page is in need of extensive revision and will be updated when the TSP revises its Home Page. Hopefully, some of the leadership blanks will be filled in time for that update. The Safety By Design TC and a potential Software Quality Assurance TC may be ready for inclusion at that time.

The TSP is always looking for subject matter experts who would like to form a viable topical committee. Are you a member of a working group or technical group especially dealing with aspects of nuclear safety that would like to be recognized across the DOE complex? Would you like the opportunity to share ideas with like-minded scientists and engineers in the Department in a time of scarce resources and be more involved in standards work? If you are part of such a group of subject matter experts that would like to affiliate with the TSP as a topical committee, contact M. Norman Schwartz, 301-903-2996, Norm.Schwartz@eh.doe.gov, or Mary Haughey, 301-903-2867, Mary.Haughey@eh.doe.gov.

Technical Qualification Program Support

By M. Norman Schwartz, Office of Nuclear & Facility Safety Policy, EH-22

For the last 5 years the Technical Standards Program (TSP), and in particular M. Norman Schwartz, has been working with the Federal Technical Capability Panel and the Secretariat for the Panel in the headquarters Office of Management, Budget, and Evaluation (ME) to bring thirty Functional Area Qualification Standards (FAQSs) within the Technical Qualification Program (TQP) under the auspices of the TSP. An FAQS establishes common functional area competency requirements for all Department of Energy (DOE) safety personnel who provide assistance, direction, guidance, oversight, or evaluation of contractor technical activities that could impact the safe operation of DOE's defense nuclear facilities. The technical FAQS has been developed as a tool to assist DOE Program and Field offices in the development and implementation of the TQP in their organizations.

The first of these standards, *Fire Protection Engineering Functional Area Qualification Standard*, DOE-STD-1137-2000, began coordination as a draft on the TSP Home Page in September 1999. The *Fire Protection Engineering FAQS* was offered as a test case. To ensure success of the process, Mr. Schwartz assumed the mantle of temporary author. He prepared a Project Request Form (Office of Management and Budget Form 1300.5) for signature by the Director of the Office of Nuclear and Facility Safety Policy, EH-22 (the headquarters organization where the TSP resides). All of the FAQSs were maintained by ME, an organization that did not have a Technical Standards Manager (TSM). To ensure the integrity of the 60-day coordination, Mr. Schwartz facilitated the review and comment process for the FAQSs by collecting all comments and turning them over to the Sponsor or Point of Contact (Craig Christenson, RL) for resolution. A second FAQS, the *Industrial Hygiene Functional Area Qualification Standard* (now DOE-STD-1138-2001), was handled in the same fashion. An approval page near the beginning of each FAQS was deemed acceptable as the final approval memorandum required by section 2.1.2 of TSP Procedure Number 8. The *Fire Protection FAQS* and the *Industrial Hygiene FAQS* were both released on July 25, 2000.

Following the success of the process on these trial FAQSs, Mr. Schwartz assumed the role of temporary author for twenty-one additional FAQSs as follows:

Title of Standard	**Standard Number**	**Release Date**
General Technical Basis FAQS	DOE-STD-1148-2001	October 29, 2000
Quality Assurance FAQS	DOE-STD-1150-2002	April 24, 2002
Facility Representative FAQS	DOE-STD-1151-2002	May 08, 2002
Occupational Safety FAQS	DOE-STD-1160-2003	March 12, 2003
Mechanical Systems FAQS	DOE-STD-1161-2003	June 20, 2003
Instrumentation and Control FAQS	DOE-STD-1162-2003	June 20, 2003
Aviation Safety Officer FAQS	DOE-STD-1164-2003	October 02, 2003
Aviation Safety Manager FAQS	DOE-STD-1165-2003	October 02, 2003
Electrical Systems FAQS	DOE-STD-1170-2003	December 03, 2003
Safeguards and Security FAQS	DOE-STD-1171-2003	December 03, 2003
Safety Systems Quality Assurance FAQS	DOE-STD-1172-2003	December 03, 2003
Senior Technical Safety Manager FAQS	DOE-STD-1175-2003	December 23, 2003
Chemical Processing FAQS	DOE-STD-1176-2004	January 22, 2004
Emergency Management FAQS	DOE-STD-1177-2004	January 22, 2004
Technical Program Manager FAQS	DOE-STD-1178-2004	February 11, 2004
Nuclear Explosive Safety FAQS	Project # TRNG-0039	Still in Draft
Facility Maintenance Management FAQS	Project # TRNG-0042	Still in Draft
Construction Management and Engineering FAQS	Project # TRNG-0043	Still in Draft
Technical Training FAQS	Project # TRNG-0044	Still in Draft
Civil/Structural Engineering FAQS	Project # TRNG-0045	Still in Draft
Nuclear Safety Specialist FAQS	Project # TRNG-0046	Still in Draft

Five FAQSs were handled through the headquarters Office of Environmental Management (EM). Mr. Schwartz performed quality control of the document formatting to assure consistency among all of the FAQSs. The following FAQSs were submitted by the TSM for EM:

Title of Standard	**Standard Number**	**Release Date**
Transportation and Traffic Management FAQS	DOE-STD-1155-2002	October 15, 2002
Environmental Compliance FAQS	DOE-STD-1156-2002	February 02, 2003
Environmental Restoration FAQS	DOE-STD-1157-2002	November 12, 2002
Waste Management FAQS	DOE-STD-1159-2003	March 01, 2003
Deactivation and Decommissioning FAQS	DOE-STD-1166-2003	September 01, 2003

The *Criticality Safety FAQS,* DOE-STD-1173-2003 (released on December 19, 2003) and the Radiation Protection FAQS, DOE-STD-1174-2003 (released January 16, 2004) were submitted through George Detsis, the EH TSM, by other headquarters EH offices and reviewed for consistency and accuracy by Mr. Schwartz. Mr. Schwartz has prepared a draft TSP procedure, TSPP-12, that will formalize the ad hoc process applied to these thirty special training documents in anticipation of future revisions and alterations.

To view the FAQSs go to the TSP Home Page at http://tis.eh.doe.gov/techstds/ or to http://ma.mbe.doe.gov/ME50/Training/qualstd.html.

Nuclear Air Cleaning Handbook Released

By James W. Slawski, National Nuclear Security Administration (NNSA)

In November 2003, the Department of Energy (DOE) issued the fourth edition of the DOE *Nuclear Air Cleaning Handbook*. DOE-HDBK-1169-2003 replaces ERDA 76-21.

We reconciled over 2,200 comments from two rounds of review in the production of this document. Approximately 40 individuals from DOE, DOE contractors, representatives of equipment manufacturers, and the Defense Nuclear Facilities Safety Board (DNFSB) staff participated in the writing, editing, and comment resolution of this 400 page handbook. We had a great deal of help from the Office of Environment, Safety and Health (EH) staff on radiological matters, fire protection, and especially on the process of writing a DOE technical standard. Office of Science and Nuclear Energy staff also participated in the overall effort. DOE Savannah River and Richland worked with us on comment resolution to improve the final product.

Along with U.S. Nuclear Regulatory Commission documents and consensus standards such as the American Society of Mechanical Engineers (ASME) AG-1, *Code on Nuclear Air and Gas Treatment*, this handbook addresses systems and equipment used in nuclear facilities to capture and control radioactive aerosols and gases. It differs from other documents in that it is intended to be specific for DOE nuclear applications. This handbook is not intended for application to commercial systems other than for general historical information and discussions of basic air cleaning theory.

The new handbook generally follows the layout of its predecessor, ERDA 76-21, but adds two new chapters:

Chapter 10, *Fire Protection*, was assembled by a group of DOE fire protection engineers led by Matt Cole, Office of Science. It includes fire-related discussions that were scattered throughout the various chapters of the 1976 handbook, and adds changes in fire protection approaches that have developed since then. Chapter 10 specifically calls out the DOE standard DOE-STD-1066-99, *Fire Protection Design Criteria*. This new chapter also lists significant fires in confinement ventilation systems at DOE facilities.

Chapter 11, *Occupational Safety and Health*, provides a brief overview of occupational safety and health concerns that may be encountered with confinement ventilation systems found in DOE facilities. Such considerations include but are not limited to: noise, shock-sensitive chemicals, confined spaces, biological hazards and respiratory protection. It also briefly discusses radiological safety, electrical safety and lockout/tagout.

Enclosed HEPA Filter

Chapter 8, *Testing*, and the three appendixes focus on the importance of high energy particulate air (HEPA) filters used in nuclear facilities. Chapter 8, in particular, was substantially rewritten from the ERDA 76-21 chapter to address concerns expressed in DNFSB TECH 3, TECH 23, TECH 26, and Recommendation 2000-2.

The handbook is compatible with the current ASME AG-1 code, and nearly half of the contributors are active participants on the AG-1 Committee.

From the time we actually started through to publication took about three years. It was a challenging task, but I knew from the start that, at times, it would be miserable. One good thing I had experienced from some difficult prior work was that there would be no competition from anyone wanting to take over this sort of job. I also knew that there were many talented and helpful individuals around the DOE complex who would contribute their knowledge to make the document a good product.

Would I do something like this again? In a New York minute.

For any questions on this handbook, please contact James W. Slawski at (301) 903-5464; james.slawski@nnsa.doe.gov.

Welcome Aboard the TSMC!

The Technical Standards Managers (TSMs) are the backbone of the DOE Technical Standards Program!

These knowledgeable individuals serve as their organization's standards point of contact and contribute to the coordination of Department-wide TSP activities. A great deal of their work time is spent in assuring that standards activities take place in a manner that will promote safe, economical, and efficient operations locally and across the DOE complex.

With nearly 90 active and mobile people involved in TSM activities, it can be a daunting task just to keep up with the retirements and reassignments affecting the TSM roster. This "Welcome Aboard" feature is designed to introduce you to the new TSMs and help you keep abreast of the rapidly changing make-up of the Technical Standards Managers' Committee (TSMC).

The TSMC welcomes the following recently added

Terry Ann Dahl (replaces Caleb (Cal) Spinney)
Battelle – Pacific Northwest National Laboratory
Requirements Management
P.O. Box 999, MSIN K6-53
Richland, WA 99352
Phone: 509-376-0084
Fax: 509-376-0191
E-mail: terry.dahl@pnl.gov

David Klamann (replaces Earlie Rose)
Wackenhut Services, Inc.
Nevada Operations (WSI-NV)
P.O. Box 168
Mercury, NV 89023-0168
Phone: 702-295-6804
Fax: 702-295-2377
E-mail: Klamann@nv.doe.gov

Susan C. Otis (replaces Jim Kesler)
Bechtel Nevada, Prime Contracts
P.O. Box 98521
Las Vegas, NV 89193-8521
Mail Stop: CF052
Phone: 702-295-1989
Fax: 702-295-1496
E-mail: OTISSC@NV.DOE.GOV

The Standards Forum and Standards Actions

Publishing Organization: EH-22, Office of Nuclear and Facility Safety Policy, Department of Energy, 1000 Independence Avenue, Washington, D.C. 20585-0270

Editor-in-Chief: Mary Haughey: 301-903-2867, Fax: 301-903-6172, e-mail Mary.Haughey@eh.doe.gov.

General Editors: Jeff Feit, Ph: 301-903-3927, Fax : 301-903-6172, e-mail:Jeffrey.feit@eh.doe.gov and Satish Khanna, Ph: 301-903-4114, Fax: 301-903-6172, e-mail satish.khanna@eh.doe.gov.

Compiling Editors: Donna Carr, Ph: 301-903-0078, Fax: 301-903-6172, e-mail: donna.carr@eh.doe.gov and Kathy Easley: Ph: 301-903-4439, Fax: 301-903-6172, e-mail kathy.easley@eh.doe.gov.

Publication & Distribution: *The Standards Forum* and *The Standards Actions* are electronic newsletters available from the TSP Web Site (**http://tis.eh.doe.gov/techstds/**). To update your mailing list and/or e-mail addresses, please email us at **TechStdPgm@eh.doe.gov** or call Norm Schwartz at 301-903-2996.

Questions or Comments: If you have any questions or comments, please contact Mary Haughey, EH-22, Manager, DOE Technical Standards program Office (TSPO), Phone 301-903-2867, Fax 301-903-6172, email Mary.Haughey @eh.doe.gov.

DOE STANDARDS ACTIONS

1.0 DOE Technical Standards Projects

The complete list of all DOE Technical Standards projects and their status is available on the Technical Standards Program TSP web page at http://tis.eh.doe.gov/techstds/. To access these standards, go to our web page, click on "DOE Technical Standards", then choose Projects, Approved Standards, Recently Approved Standards, or Drafts for Review, as appropriate, on the left frame of the page.

1.1 DOE Technical Standards Recently Sent for Coordination

No entries were received during the month of February 2004.

Your Technical Standards Manager (TSM) will initiate requests for specific reviewers to comment on these drafts. The full text of these documents is available on the Web Site. If you wish to comment on these drafts, please notify your TSM. The list of TSMs can be found at http://tis.eh.doe.gov/techstds/genframe.html.

1.2 DOE Technical Standards Recently Published

The following DOE Technical Standard was recently published and posted on the TSP Web site:

DOE–STD–1178-2004, Technical Program Manager Functional Area Qualification Standard, DOE Defense Nuclear Facilities Technical Personnel, February 2004

Copies are also available on the TSP Web site.

NON-GOVERNMENTS STANDARDS

2.0 Non-Government Standards

2.1 American National Standards Institute

American National Standards Institute (ANSI) publishes coordination activities of non-Government standards (NGS) weekly in *ANSI Standards Action*. Recent electronic copies are available on the ANSI Web Site at:

http://www.ansi.org/news_publications/periodicals/standards_action/standards_action.aspx?menuid=7. The following listings are extracted from *ANSI Standards Action* and are representative of NGS development activities that may be relevant to DOE operations. Refer to *ANSI Standards Action* for the complete list of changes and new publications, standards developing organizations, and additional information about submitting comments. Electronic delivery of selected documents is available through ANSI at http://webstore.ansi.org. Copies of the listed draft standards and the procedure for commenting on them may be obtained by contacting the standards developing organization.

2.1.1 American National Standards

2.1.1.1 American National Standards in Coordination

The following American National Standards are currently in coordination. Comment due dates are noted before each set.

Comment Deadline: March 14, 2004

UL (Underwriters Laboratories, Inc.)

Revisions

BSR/UL 484-200x, Room Air Conditioners (revision of ANSI/UL484-2002)

Comment Deadline: March 29, 2004

AMT (ASC B11) (Association for Manufacturing Technology)

Revisions

BSR B11.17-200x, Machine Tools - Horizontal Hydraulic Extrusion Presses - Safety Requirements for Construction, Care, and Use (revision of ANSI B11.17-1996)

ITI (INCITS)

New Standards

- BSR INCITS 381-200x, Information technology - Finger Image Based Data Interchange Format
- BSR INCITS 385-200x, Information technology - Face Recognition Format for Data Interchange

NEMA (ASC C78) (National Electrical Manufacturers Association)

Revisions

BSR C78.43-200x, Electric Lamps - Single-Ended (SE) Metal-Halide Lamps (revision, redesignation and consolidation of ANSI C78.1372-1997, C78.1374-1997, C78.1375-1997, C78.1376-1997, C78.1377-1997, C78.1378-1997, C78.1379-1997, C78.1382-1997, C78.1384-1997, and C78.1650-2003)

(Continued on page 14)

(Continued from page 13)

UL (Underwriters Laboratories, Inc.)

New Standard

BSR/UL 1863-200x, Communications-Circuit Accessories (bulletin dated 5/19/03) (new standard)

Revisions

- BSR/UL 62-200x, Standard for Safety for Flexible Cords and Cables (Bulletin dated January 30, 2004) (revision of ANSI/UL 62-1999)
- BSR/UL 834-200x, Standard for Safety for Heating, Water Supply, and Power Boilers - Electric (revision of ANSI/UL 834-1998)

Comment Deadline: April 13, 2004

ASME (American Society of Mechanical Engineers)

New Standards

- BSR/ASME MFC-3M-1-200x, Measurement of Fluid Flow in Pipes Using Orifice, Nozzle, and Venturi - Part 1 - General
- BSR/ASME MFC-3M-2-200x, Measurement of Fluid Flow in Pipes Using Orifice, Nozzle, and Venturi - Part 2 - Orifice Plates
- BSR/ASME MFC-3M-3-200x, Measurement of Fluid Flow in Pipes Using Orifice, Nozzle, and Venturi - Part 3 - Nozzles and Venturi Nozzles
- BSR/ASME MFC-3M-4-200x, Measurement of Fluid Flow in Pipes Using Orifice, Nozzle, and Venturi - Part 4 - Venturi Meters

LIA (ASC Z136) (Laser Institute of America)

Revision

BSR Z136.3-200x, Safe Use of Lasers in Health Care Facilities (revision of ANSI Z136.3-1996)

2.1.1.2 American National Standards for Final Action

The standards actions listed below have been approved by the ANSI Board of Standards Review (BSR) or by an ANSI Audited Designator, as applicable. These standards are representative of NGS development activities that may be relevant to DOE operations. The date following each standard indicates its date of approval.

ASME (American Society of Mechanical Engineers)

Revisions

ANSI/ASME NQA-1-2004, Quality Assurance Requirements for Nuclear Facility Applications (revision of ANSI/ASME NQA-1-2000): 2/3/2004

ASQ (American Society for Quality)

Revisions

ANSI/ASQ E4-2004, Quality Systems for Environmental Data and Technology Programs: Requirements with Guidance for Use (revision and redesignation of ANSI/ASQC E4-1994): 2/4/2004

ATIS (ASC T1) (Alliance for Telecommunica tions Industry Solutions)

New Standard

ANSI T1.337-2004, Requirements for Maximum Voltage, Current, and Power Levels in Network-Powered Transport System :2/3/2004

AWS (American Welding Society)

New Standard

ANSI/AWS D16.1M/D16-2004, Specification for Robotic Arc Welding Safety (new standard): 2/3/2004

IEEE (ASC N42) (Institute of Electrical and Electronics Engineers)

New Standard

ANSI N42.35-2004, Evaluation and Performance of Radiation Detection Portal Monitors for Use in Homeland Security: 2/9/2004

IESNA (Illuminating Engineering Society of North America)

New Standard

ANSI/IESNA LM-73-2004, IESNA Approved Method for Photometric Testing of Entertainment Lighting Luminaires Using Incandescent Filament Lamp or High Intensity Discharge Lamps: 2/9/2004

NEMA (ASC C78) (National Electrical Manufacturers Association)

New National Adoption

ANSI C78.60432.3-2004, Electric Lamps - Incandescent Lamps - Safety Specifications - Part 3: Tungsten-halogen lamps (identical national adoption): 2/3/2004

Revision

ANSI C78.60432.2-2004, Electric Lamps - Incandescent Lamps - Safety Specifications - Part 2 (revision of ANSI C78.60432.2-2002): 2/3/2004

NFPA (National Fire Protection Association)

New Standards

- ANSI/NFPA 551-2004, Guide for the Evaluation of Fire Risk Assessments: 2/5/2004
- ANSI/NFPA 900-2004, Building Energy Code (new standard): 2/5/2004

(Continued on page 15)

(Continued from page 14)

Revisions

- ANSI/NFPA 12A-2004, Halon 1301 Fire Extinguishing Systems (revision of ANSI /NFPA 12A-1997): 2/5/2004
- ANSI/NFPA 36-2004, Solvent Extraction Plants (revision of ANSI/NFPA 36-2001): 2/5/2004
- ANSI/NFPA 53-2004, Recommended Practice on Materials, Equipment and Systems Used in Oxygen-Enriched Atmospheres (revision of ANSI/NFPA 53-1999): 2/5/2004
- ANSI/NFPA 58-2004, Liquefied Petroleum Gas Code (revision of ANSI/NFPA 58-2001):2/5/2004
- ANSI/NFPA 59-2004, Utility LP-Gas Plant Code (revision of ANSI/NFPA 59-2001): 2/5/2004
- ANSI/NFPA 70E-2004, Standard for Electrical Safety Requirements for Employee Workplaces (revision of ANSI/NFPA 70E-2000): 2/5/2004
- ANSI/NFPA 82-2004, Incinerators and Waste and Linen Handling Systems and Equipment (revision of ANSI/NFPA 82-1999): 2/5/2004
- ANSI/NFPA 85-2004, Boiler and Combustion Systems Hazards Code (revision of ANSI/NFPA 85-2001): 2/5/2004
- ANSI/NFPA 101A-2004, Guide on Alternative Approaches to Life Safety (revision of ANSI/NFPA 101A-2001): 2/5/2004
- ANSI/NFPA 497-2004, Recommended Practice for the Classification of Flammable Liquids, Gases, or Vapors and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas (revision of ANSI/NFPA 497-1997): 2/5/2004
- ANSI/NFPA 499-2004, Recommended Practice for the Classification of Combustible Dusts and of Hazardous (Classified) Locations for Electrical Installations in Chemical Process Areas (revision of ANSI/NFPA 499-1991 (R1997)): 2/5/2004
- ANSI/NFPA 921-2004, Guide for Fire and Explosion Investigations (revision of ANSI/NFPA 921-2001): 2/5/2004
- ANSI/NFPA 1600-2004, Disaster Emergency Management and Business Continuity Programs (revision of ANSI/NFPA 1600-2000): 2/5/2004
- ANSI/NFPA 1670-2004, Operations and Training for Technical Rescue Incidents (revision of ANSI/NFPA 1670-1999): 2/5/2004
- ANSI/NFPA 1975-2004, Station/Work Uniforms for Fire and Emergency Services (revision of ANSI/NFPA 1975-1999): 2/5/2004
- ANSI/NFPA 2001-2004, Clean Agent Fire Extinguishing Systems (revision of ANSI/NFPA 2001-2000): 2/5/2004

TIA (Telecommunications Industry Association)

New National Adoptions

- ANSI/TIA 455-235-2004, FOTP235 - IEC 61280-2-8 - Fibre Optic Communication Subsystem Test Procedures - Digital Systems – Part 2-8: Determination of Low BER Using Q-Factor Measurements (identical national adoption): 2/3/2004
- ANSI/TIA 455-236-2004, FOTP236 - IEC 61280-2-9 - Fibre Optic Communication Subsystem Test Procedures - Part 2-6: Digital Systems - Optical Signal-to-Noise Ratio Measurement for Dense Wavelength-Division Multiplexed Systems (identical national adoption): 2/3/2004
- ANSI/TIA 1026-2004, IEC 61282-5 - Fibre Optic Communication System Design Guides - Part 5: Accommodation and Compensation of Dispersion (identical national adoption): 2/3/2004
- ANSI/TIA TR-1028-2004, IEC 61282-7 - Optic Communication System Design Guides - Part 7: Statistical Calculation of Chromatic Dispersion (identical national adoption): 2/3/2004
- ANSI/TIA TR-1029-2004, IEC 61282-3 - Fibre Optic Communication System Design Guides - Part 3: Calculation of Polarization Mode Dispersion (identical national adoption): 2/3/2004

New Standard

ANSI/TIA 604-17-2004, FOCIS17 - Fiber Optic Connector Intermateability Standard, Type MU: 2/3/2004

UAMA (ASC B74) (Unified Abrasive Manufacturers' Association)

Revisions

ANSI B74.20-2004, Specification for Diamond and CBN Powders in Sub-Sieve Sizes (revision of ANSI B74.20-1997): 2/3/2004

UL (Underwriters Laboratories, Inc.)

New National Adoptions

- ANSI/UL 60947-7-1-2004, Standard for Terminal Blocks for Copper Conductors (national adoption with modifications): 2/5/2004
- ANSI/UL 60947-7-2-2004, Standard for Protective Conductor Terminal Blocks for Copper Conductors (national adoption with modifications): 2/5/2004

New Standards

- ANSI/UL 793-2004, Standard for Safety for Automatically Operated Roof Vents for Smoke and Heat: 2/5/2004
- ANSI/UL 2108-2004, Standard for Safety for Low Voltage Lighting Systems (Substantive Change Bulletin: 2/5/2004
- ANSI/UL 2239-2004, Standard for Hardware for the Support of Conduit, Tubing and Cable: 2/2/2004

Revisions

- ANSI/UL 33-2004, Heat-Responsive Links for Fire Protection Service (revision of ANSI/UL 33-2003): 2/2/2004
- ANSI/UL 153-2004, Standard for Safety for Portable Electric Luminaires (revision of ANSI/UL 153-2002a): 1/29/2004
- ANSI/UL 218A-2004, Standard for Battery Contactors for Use in Diesel Engines Driving Centrifugal Fire Pumps (revision of ANSI/UL 218A-1994): 2/9/2004
- ANSI/UL 1059-2004, Terminal Blocks (revision of ANSI/UL 1059-2001): 2/5/2004
- ANSI/UL 2167-2004, Standard for Safety for Water Mist Nozzles for Fire-Protection Service (revision of ANSI/UL 2167-2002): 2/2/2004

(Continued on page 16)

(Continued from page 15)

2.1.1.3 Project Initiation Notification System (PINS)

Following is a list of proposed new American National Standards or revisions to existing American National Standards that have been received from ANSI accredited standards developers that utilize the periodic maintenance option in connection with their standards.

AIAA (American Institute of Aeronautics and Astronautics)

BSR/AIAA G-095-200x, Guide for Safety of Hydrogen and Hydrogen Systems (new standard)

ASME (American Society of Mechanical Engineers)

- BSR B32.100-200x, Preferred Metric Sizes for Flat, Round, Square, Rectangular, and Hexagonal Metal Products (revision, redesignation and consolidation of ANSI B32.4M-1980 (R1994), ANSI/ASME B32.3M-1984)
- BSR/ASME B56.14-200x, Safety Standard for Vehicle Mounted Forklifts (new standard)

2.2 International Standards

2.2.1 International Draft Standards

This section lists proposed standards that the International Organization for Standardization (ISO) - the International Organization for Standardization. The proposals have received substantial support within the technical committees or subcommittees that developed them and are now being circulated to ISO members for comment and vote. Readers interested in reviewing and commenting on these documents should order copies from ANSI and provide comments by due date, following each listing.

FREIGHT CONTAINERS (TC 104)

ISO 3874/DAmd3, Double stack rail car operations - 5/6/2004

GEOGRAPHIC INFORMATION/GEOMATICS (TC 211)

ISO/DIS 19133, Geographic information - Location based services tracking and navigation - 5/7/2004

QUALITY MANAGEMENT AND QUALITY ASURANCE (TC 176)

ISO/DIS 10005, Quality management - Guidelines for quality plans - 4/29/2004

SIEVES, SIEVING AND OTHER SIZING METHODS (TC 24)

ISO/DIS 9276-5, Representation of results of particle size analysis - Part 5: Methods of calculations relating to particle size analyses using logarithmic normal probability distribution - 5/7/2004

STEEL (TC 17)

ISO/DIS 17053, Steel and iron - Determination of oxygen content - Infrared method after fusion under inert gas - 5/6/2004

SURFACE CHEMICAL ANALYSIS (TC 201)

- ISO/DIS 24236, Surface chemical analysis - Auger electron spectroscopy - Repeatability and constancy of intensity scale - 5/6/2004
- ISO/DIS 24237, Surface chemical analysis - X-ray photoelectron spectroscopy - Repeatability and constancy of intensity scale - 5/6/2004

2.2.2 Newly Published ISO Standards

This section contains new and revised standards recently approved and promulgated by ISO. Most are available at the ANSI Electronic Standards Store (ESS) at www.ansi.org. All paper copies are available from Global Engineering documents.

AIRCRAFT AND SPACE VEHICLES (TC 20)

ISO 14950:2004, Space systems - Unmanned spacecraft operability

CHAINS AND CHAIN WHEELS FOR POWER TRANSMISSION AND CONVEYORS (TC 100)

ISO 10823:2004, Guidelines for the selection of roller chain drives

FLUID POWER SYSTEMS (TC 131)

ISO 15552:2004, Pneumatic fluid power - Cylinders with detachable mountings, 1000 kPa (10 bar) series, bores from 32 mm to 320 mm - Basic, mounting and accessories dimensions

INFORMATION AND DOCUMENTATION (TC 46)

ISO 15924:2004, Information and documentation - Codes for the representation of names of scripts

PUMPS (TC 115)

SO 21049:2004, Pumps - Shaft sealing systems for centrifugal and rotary pumps

TRACTORS AND MACHINERY FOR AGRICULTURE AND FORESTRY (TC 23)

- ISO 500-1:2004, Agricultural tractors - Rear-mounted power take-off types 1, 2 and 3 - Part 1: General specifications, safety requirements, dimensions for master shield and clearance zone
- ISO 500-3:2004, Agricultural tractors - Rear-mounted power take-off types 1, 2 and 3 - Part 3: Main PTO dimensions and spline dimensions, location of PTO

TRANSPORT INFORMATION AND CONTROL SYSTEMS (TC 204)

ISO 14825:2004, Intelligent transport systems -

(Continued on page 17)

(Continued from page 16)

Geographic Data Files (GDF) - Overall data specification

WATER QUALITY (TC 147)

- ISO 6107-1:2004, Water quality – Vocabulary
- ISO 18749:2004, Water quality - Adsorption of substances on activated sludge - Batch test using specific analytical methods

ISO/IEC JTC 1, Information Technology

ISO/IEC 14496-16:2004, Information technology - Coding of audio-visual objects - Part 16: Animation Framework Extension (AFX)

3.0 American Society of Mechanical Engineers (ASME)

The following listings are extracted from the ASME list of recently published standards on the ASME web site at http://www.asme.org/codes/newdocuments.html and are representative of NGS development activities that may be relevant to DOE operations. Refer to the ASME web site for the complete list of changes and new publications, standards developing organizations, and additional information about submitting comments.

3.1 ASME Standards in Coordination

The following ASME standards are currently in coordination. Comment due dates are noted after each listing.

- ASME AG-1a - 20XX, Code on Nuclear Air and Gas Treatment (Addenda to a current standard), 03/30/04
- ASME B18.24a - 20XX, B18.24 – Part Identifying Number (PIN) Code System Standard for B18 Fastener Products (Addenda to a current standard), 03/21/04
- ANS: ASME B30.5 - 20XX, Mobile and Locomotive Cranes (Revision to a current standard), 03/29/04
- ANS: ASME B56.1 - 20XX, Safety Standard for Low Lift and High Lift Trucks (Revision to a current standard), 03/08/04
- ANS: ASME MFC-3M-1 - 20XX, Measurement of Fluid Flow in Pipes Using Orifice, Nozzle, and Venturi - Part 1 – General (Creation of a new American National Standard), (04/13/04)
- ANS: ASME MFC-3M-2 - 20XX, Measurement of Fluid Flow in Pipes Using Orifice, Nozzle, and Venturi - Part 2 - Orifice Plates (Create a new American National Standard), 04/13/03
- ANS: ASME MFC-3M-3 - 20XX, Measurment of Fluid Flow in Pipes USing Orifice, Nozzle, and Venturi - Part 3 - Nozzles and Venturi Nozzles (Creation of a new American National Standard), 04/13/04
- ANS: ASME MFC-3M-4 - 20XX, Measurement of Fluid Flow in Pipes USing Orifice, Nozzle, and Venturi - Part 4 - Venturi Meters - Part 4 - Venturi Meters (Creation of a new American National Standard), 04/13/04

3.2 New ASME Standards Published

The following ASME standards were recently approved and published. Go to the ASME web site for information on ordering copies.

- A90.1-2003: Safety Standard for Belt Manlifts
- A112.6.4-2003: Roof, Deck, and Balcony Drains
- A112.18.6-2003: Flexible Water Connectors
- B107.37-2003: Pliers- Wire Cutters/Strippers
- OM-S/G-2003: Standards and Guides for Operation and Maintenance of Nuclear Power Plants
- PVHO-2-2003: Safety Standard for Pressure Vessels for Human Occupancy in-Service Guidelines for PVHO Acrylic Windows

Y14.5M-1994 and Y14.41-2003 Package Containing:

- Y14.5M-1994 Dimensioning and Tolerancing
- Y14.41-2003 Digital Product Definition Data Practices

Y14.41 - 2003 Referenced Standards Package containing:

- Y14.1-1995 Decimal Inch Drawing Sheet Size and Format
- Y14.1M-1995 Metric Drawing Sheet Size and Format
- Y14.2M-1992 Line Conventions and Lettering
- Y14.3M-1994 Multiview and Sectional View Drawings
- Y14.4M-1989 Pictorial Drawing
- Y14.5M-1994 Dimensioning and Tolerancing
- Y14.8M-1996 Castings and Forgings
- Y14.35M-1997 Revision of Engineering Drawings and Associated Documents
- Y14.38-1999 Abbreviations and Acronyms
- Y14.100-2000 Engineering Drawing Practices
- Y14.43-2003 Dimensioning and Tolerancing Principles for Gages and Fixtures

3.3 Revised ASME Standards Published

The following ASME standards were recently approved and published. Go to the ASME web site for information on ordering copies.

- A18.1-2003: Safety Standards for Platform Lifts and Stairway Chairlifts
- AG-1-2003: Code on Nuclear Air and Gas Treatment
- A112.14.1-2003: Backwater Valves
- B16.5-2003 Pipe Flanges and Flanged Fittings: NPS ½ through NPS 24
- B20.1-2003: Safety Standard for Conveyors and Related Equipment
- B30.9-2003: Slings
- B30.20-2003: Below-the-Hook Lifting Devices
- B31.1a-2002: Addenda to ASME B31.1-2001, Power Piping
- B89.1.6-2002: Measurement of Plain Internal Diameters for Use as Master Rings or Ring Gages
- B107.13-2003: Pliers, Long Nose, Long Reach
- B107.18-2003: Pliers, Wire Twister
- B107.27-2003: Pliers, Multiple Position, Electrical Connector
- MFC-1M-2003: Glossary of Terms Used in the Measurement of Fluid Flow in Pipes
- OMb-2002: Addenda to ASME OM Code-2001, Code for Operation and Maintenance of Nuclear Power Plants
- PTC 23-2003: Atmospheric Water Cooling Equipment
- RA-Sa-2003: Addenda to ASME RA-S-2002, Standard

(Continued on page 18)

(Continued from page 17)

for Probabilistic Risk Assessment for Nuclear Power
- Applications
- RTP-1c-2003: Addenda to ASME RTP-1-2000, Reinforced Thermoset Plastic Corrosion Resistant Equipment
- STS-1a-2003: Addenda to ASME STS-1-2000, Steel Stacks

3.4 Other

The following Boiler Pressure Vessel Code (BPVC) supplements were recently issued.

- BPVC: Supplement No. 10 to the 2001 Edition of Code Cases, Boiler and Pressure Vessels
- BPVC: Supplement No. 10 to the 2001 Edition of Code Cases, Nuclear Components

4.0 ASTM

The following list of approved standards actions was extracted from the ASTM February Standards Action, which can be found on the ASTM web site at http://www.astm.org/cgibin/SoftCart.exe/SNEWS/FEBRUARY_2004/acta_feb04.html?L+mystore+mxgh1212+1075933043. The list is representative of NGS development activities that may be relevant to DOE operations. Refer to the ASTM web site for the complete list of new publications.

4.1 ASTM A Standards

A01 on Steel, Stainless Steel and Related Alloys

Revisions

Volume 01.05, 2004
- A 108-03, Specification for Steel Bar, Carbon and Alloy, Cold-Finished
- A 266/A 266M-03a, Specification for Carbon Steel Forgings for Pressure Vessel Components
- A 336/A 336M-03a, Specification for Alloy Steel Forgings for Pressure and High-Temperature Parts
- A 508/A 508M-03a, Specification for Quenched and Tempered Vacuum-Treated Carbon and Alloy Steel Forgings for Pressure Vessels
- A 675/A 675M-03, Specification for Steel Bars, Carbon, Hot-Wrought, Special Quality, Mechanical Properties

A04 on Iron Castings

Revisions

Volume 01.02, 2005
- A 377-03, Index of Specifications for Ductile-Iron Pressure Pipe
- A 716-03, Specification for Ductile Iron Culvert Pipe

A06 on Magnetic Properties

Revisions

Volume 03.04, 2004
- A 697/A 697M-03 (Includes change to title), Test Method for Alternating Current Magnetic Properties of Laminated Core Specimen Using Voltmeter-Ammeter-Wattmeter Methods
- A 876/A 876M-03, Specification for Flat-rolled, Grain-Oriented, Silicon-Iron, Electrical Steel, Fully Processed Types
- A 889-03 (Includes change to title), Test Method for Alternating-Current Magnetic Properties of Materials at Low Magnetic Flux Density Using the Voltmeter-Ammeter-Wattmeter-Varmeter Method and 25-cm Epstein Frame
- A 893/A 893M-03 (Includes change to title), Test Method for Complex Dielectric Constant of Nonmetallic Magnetic Materials at Microwave Frequencies
- A 976-03 (Includes change to title), Classification of Insulating Coatings for Electrical Steels by Composition, Relative Insulating Ability and Application

4.2 ASTM B Standards

B02 on Nonferrous Metals and Alloys

Revisions

Volume 02.04, 2004
- B 6-03, Specification for Zinc
- B 676-03, Specification for UNS N08367 Welded Tube
- B 704-03, Specification for Welded UNS N06625, UNS N06219 and UNS N08825 Alloy Tubes
- B 705-03, Specification for Nickel-Alloy UNS N06625, N06219 and N08825 Welded Pipe
- B 899-03a, Terminology Relating to Non-Ferrous Metals and Alloys

B05 on Copper and Copper Alloys

Revisions

Volume 02.01, 2004
- B 88-03, Specification for Seamless Copper Water Tube
- B 88M-03, Specification for Seamless Copper Water Tube Metric B 196/B 196M-03, Specification for Copper-Beryllium Alloy Rod and Bar
- B 280-03, Specification for Seamless Copper Tube for Air Conditioning and Refrigeration Field Service
- B 466/B 466M-03, Specification for Seamless Copper-Nickel Pipe and Tube
- B 694-03 (Includes change to title), Specification for Copper, Copper-Alloy, Copper-Clad Bronze (CCB), Copper-Clad Stainless Steel (CCS) , and Copper-Clad Alloy Steel (CAS) Sheet and Strip for Electrical Cable shielding

B07 on Light Metals and Alloys

Revisions

Volume 02.02, 2004
- B 211-03, Specification for Aluminum and Aluminum-Alloy Bar, Rod, and Wire
- B 211M-03, Specification for Aluminum and Aluminum-Alloy Bar, Rod, and Wire Metric
- B 548-03, Test Method for Ultrasonic Inspection of Aluminum-Alloy Plate for Pressure Vessels

(Continued on page 19)

(Continued from page 18)

B09 on Metal Powders and Metal Powder Products

Revisions

Volume 02.05, 2004
B 243-03a, Terminology of Powder Metallurgy

B10 on Reactive and Refractory Metals and Alloys

Revisions

Volume 02.04, 2004
- B 265-03, Specification for Titanium and Titanium Alloy Strip, Sheet, and Plate
- B 338-03, Specification for Seamless and Welded Titanium and Titanium Alloy Tubes
- B 348-03, Specification for Titanium and Titanium Alloy
- B 363-03a, Specification for Seamless and Welded Unalloyed Titanium and Titanium Alloy Welding Fittings
- B 381-03, Specification for Titanium and Titanium Alloy Forgings
- B 386-03, Specification for Molybdenum and Molybdenum Alloy Plate, Sheet, Strip, and Foil
- B 861-03, Specification for Titanium and Titanium Alloy Seamless Pipe
- B 863-03, Specification for Titanium and Titanium Alloy Wire

4.3 ASTM C Standards

C01 on Cement

Revisions

Volume 04.01, 2003
- C 266-03, Test Method for Time of Setting of Hydraulic-Cement Paste by Gillmore Needles
- C 359-03a, Test Method for Early Stiffening of Hydraulic Cement Mortar Method
- C 1157-03, Performance Specification for Hydraulic Cement
- C 1222-03, Practice for Evaluation of Laboratories Testing Hydraulic Cement

C08 on Refractories

Revision

Volume 04.07, 2003
C 16-03, Test Method for Load Testing Refractory Shapes at High Temperatures

C11 on Gypsum and Related Building Materials and Systems

Revisions

Volume 04.01, 2003
- C 36/C 36M-03, Specification for Gypsum Wallboard
- C 588/C 588M-03, Specification for Gypsum Base for Veneer Plasters
- C 630/C 630M-03, Specification for Water-Resistant Gypsum Backing Board
- C 1278/C 1278M-03, Specification for Fiber-Reinforced Gypsum Panel

Volume 04.01, 2004
- C 11-03d, Terminology Relating to Gypsum and Related Building Materials and Systems
- C 1396/C 1396M-03a, Specification for Gypsum Board

C12 on Mortars and Grouts for Unit Masonry

Revisions

Volume 04.05, 2003
C 270-03a, Specification for Mortar for Unit Masonry

C15 on Manufactured Masonry Units

Revisions

Volume 04.05, 2003
- C 1167-03, Specification for Clay Roof Tiles
- C 1532-03, Guide for Selection, Removal, and Shipment of Masonry Assemblage Specimens from Existing Construction
- E 514-03, Test Method for Water Penetration and Leakage Through Masonry

C16 on Thermal Insulation

Revisions

Volume 04.06, 2003
- C 578-03b, Specification for Rigid, Cellular Polystyrene Thermal Insulation
- C 1055-03, Guide for Heated System Surface Conditions That Produce Contact Burn Injuries
- C 1126-03, Specification for Faced or Unfaced Rigid Cellular Phenolic Thermal Insulation

Volume 04.06, 2004
- C 533-03, Specification for Calcium Silicate Block and Pipe Thermal Insulation
- C 552-03, Specification for Cellular Glass Thermal Insulation
- C 991-03, Specification for Flexible Fibrous Glass Insulation for Metal Buildings
- C 1136-03a, Specification for Flexible, Low Permeance Vapor Retarders for Thermal Insulation

C21 on Ceramic Whitewares and Related Products

Revisions

Volume 15.02, 2004
- C 322-03, Practice for Sampling Ceramic Whiteware Clays
- C 689-03a, Test Method for Modulus of Rupture of Unfired Clays
- C 690-03, Test Method for Particle Size Distribution of Alumina or Quartz Powders by Electrical Sensing Zone Technique

(Continued on page 20)

(Continued from page 19)

4.4 ASTM D Standards

D01 on Paint and Related Coatings, Materials, and Applications

Revision

Volume 06.02, 2005
D 2065-03, Test Method for Determination of Edge Performance of Composite Wood Products Under Surfactant Accelerated Moisture Stress

D03 on Gaseous Fuels

New Standard

Volume 05.06, 2003
D 6968-03, Test Method for Simultaneous Measurement of Sulfur Compounds and Minor Hydrocarbons in Natural Gas and Gaseous Fuels by Gas Chromatography and Atomic Emission Detection

D04 on Road and Paving Materials

New Standard

Volume 04.03, 2003
D 6925-03, Test Method for Preparation and Determination of the Relative Density of Hot Mix Asphalt HMA Specimens by Means of the Superpave Gyratory Compactor

D05 on Coal and Coke

Revision

Volume 05.06, 2003
D 4702-03, Guide for Inspecting Crosscut, Sweep-Arm, and Auger Mechanical Coal-Sampling Systems for Conformance with Current ASTM Standards

D07 on Wood

New Standard

Volume 04.10, 2004
D 6958-03, Test Methods for Evaluating Side-Bonding Potential of Wood Coatings

D08 on Roofing and Waterproofing

Revisions

Volume 04.04, 2004
D 5635-03, Test Method for Dynamic Puncture Resistance of Roofing Membrane Specimens

D09 on Electrical and Electronic Insulating Materials

Revisions

Volume 10.01, 2003
- D 1932-03, Test Method for Thermal Endurance of Flexible Electrical Insulating Varnishes
- D 2132-03, Test Method for Dust-and-Fog Tracking and Erosion Resistance of Electrical Insulating Materials

Volume 10.01, 2004
- D 669-03, Test Method for Dissipation Factor and Permittivity Parallel with Laminations of Laminated Sheet and Plate MaterialsD 1825-03, Practice for Etching and Cleaning Copper-Clad Electrical Insulating Materials and Thermosetting Laminates for Electrical Testing
- D 2802-03, Specification for Ozone-Resistant Ethylene-Alkene Polymer Insulation

Volume 10.02, 2003
- D 3251-03, Test Method for Thermal Endurance Characteristics of Electrical Insulating Varnishes Applied Over Film-insulated Magnet Wire
- D 4313-03, Specification for General-Purpose, Heavy-Duty, and Extra-Heavy-Duty Crosslinked Chlorinated Polyethylene Cm Jackets for Wire and Cable
- D 4733-03, Test Methods for Solventless Electrical Insulating Varnishes
- D 4880-03, Test Method for Salt Water Proofness of Insulating Varnishes over Enamelled Magnet Wire
- D 6053-03, Test Method for Determination of Volatile Organic Compound VOC Content of Electrical Insulating Varnishes
- D 6194-03, Test Method for Glow-Wire Ignition of Materials

Volume 10.02, 2004
D 3874-03, Test Method for Ignition of Materials by Hot Wire Sources

D18 on Soil and Rock

Revisions

Volume 04.08, 2003
- D 4829-03, Test Method for Expansion Index of Soils
- D 5434-03, Guide for Field Logging of Subsurface Explorations of Soil and Rock

Volume 04.08, 2004
D 2850-03a, Test Method for Unconsolidated-Undrained Triaxial Compression Test on Cohesive Soils

D19 on Water

Revision

Volume 11.02, 2003
D 5673-03, Test Method for Elements in Water by Inductively Coupled Plasma-Mass Spectrometry

D20 on Plastics

New Standard

Volume 08.03, 2003
- D 6979-03, Test Method for Polyurethane Raw Materials: Determination of Basicity in Polyols, Expressed as Percent Nitrogen

Revisions

Volume 08.01, 2003
D 785-03, Test Method for Rockwell Hardness of Plastics and Electrical Insulating Materials

(Continued on page 21)

(Continued from page 20)

Volume 08.02, 2003
D 3895-03, Test Method for Oxidative-Induction Time of Polyolefins by Differential Scanning Calorimetry

Volume 08.03, 2003
- D 4662-03, Test Methods for Polyurethane Raw Materials: Determination of Acid and Alkalinity Numbers of Polyols
- D 5491-03, Classification for Recycled Post-Consumer Polyethylene Film Sources for Molding and Extrusion Materials

Volume 08.03, 2004
D 1922-03a, Test Method for Propagation Tear Resistance of Plastic Film and Thin Sheeting by Pendulum Method

Volume 08.04, 2000
- D 3262-03, Specification for "Fiberglass " Glass-Fiber-Reinforced Thermosetting-Resin Sewer Pipe
- D 3517-03, Specification for "Fiberglass " Glass-Fiber-Reinforced Thermosetting-Resin Pressure Pipe

D22 on Sampling and Analysis of Atmospheres

New Standard

Volume 11.03, 2003
D 6966-03, Practice for Collection of Settled Dust Samples Using Wipe Sampling Methods for Subsequent Determination of Metals

Revision

Volume 11.03, 2003
- D 5836-03, Test Method for Determination of 2,4-Toluene Diisocyanate 2,4-TDI and 2,6-Toluene Diisocyanate 2,6-TDI in Workplace Atmospheres 1-2 Pp Method
- D 6348-03, Test Method for Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform Infrared FTIR Spectroscopy

D24 on Carbon Black

Revisions

Volume 09.01, 2003
D 1510-03, Test Method for Carbon Black - Iodine Adsorption Number

Volume 09.01, 2004
- D 1799-03a, Practice for Carbon Black-Sampling Packaged Shipments
- D 3765-03a, Test Method for Carbon Black-CTAB Cetyltrimethylammonium Bromide Surface Area
- D 6915-03a, Practice for Carbon Black-Evaluation of Standard Reference Blacks

D27 on Electrical Insulating Liquids and Gases

Revisions

Volume 10.03, 2004
- D 924-03a, Test Method for Dissipation Factor or Power Factor and Relative Permittivity Dielectric Constant of Electrical Insulating Liquids
- D 1816-03, Test Method for Dielectric Breakdown Voltage of Insulating Oils of Petroleum Origin Using VDE Electrodes
- D 1933-03, Specification for Nitrogen Gas as an Electrical Insulating Material
- D 6181-03, Test Method for Measurement of Turbidity in Mineral Insulating Oil of Petroleum Origin

D30 on Composite Materials

Revision

Volume 15.03, 2004
D 3878-03a, Terminology for Composite Materials

4.5 ASTM E Standards

E01 on Analytical Chemistry for Metals, Ores and Related Materials

New Standards

Volume 03.06, 2003
- E 2293-03, Practice for Drying of Metal Bearing Ores, Concentrates and Related Metallurgical Materials for the Determination of Mercury
- E 2296-03, Practice for Silver Corrections in Metal Bearing Ores, Concentrates, and Related Metallurgical Materials by Fire Assay Slag Recycling and Cupel Proof Gravimetry

Revisions

Volume 03.05, 2003
- E 135-03b, Terminology Relating to Analytical Chemistry for Metals, Ores, and Related Materials
- E 135-03c, Terminology Relating to Analytical Chemistry for Metals, Ores, and Related Materials
- E 276-03, Test Method for Particle Size or Screen Analysis at No. 4 4.75-mm Sieve and Finer for Metal-Bearing Ores and Related Materials
- E 367-03 (Includes change to title), Methods for Chemical Analysis of Ferroniobium
- E 389-03, Test Method for Particle Size or Screen Analysis at No. 4 4.75-mm Sieve and Coarser for Metal-Bearing Ores and Related Materials
- E 463-03, Test Method for Silica in Fluorspar by the Silico-Molybdate Visible Spectrometry
- E 507-03 (Includes change to title), Test Method for Aluminum in Iron Ores by Atomic Absorption Spectrometry
- E 508-03 (Includes change to title), Test Method for Calcium and Magnesium in Iron Ores by Atomic Absorption Spectrometry
- E 877-03, Practice for Sampling and Sample Preparation of Iron Ores and Related Materials
- E 1568-03, Test Method for Determination of Gold in Activated Carbon by Fire Assay Gravimetry
- E 1569-03, Test Method for Determination of Oxygen in Tantalum Powder

Volume 03.06, 2003
E 478-03, Test Methods for Chemical Analysis of Copper Alloys

E04 on Metallography

New Standard

Volume 03.01, 2003
E 2283-03, Practice for Extreme Value Analysis of Nonmetallic Inclusions in Steel and Other Microstructural Features

(Continued on page 22)

(Continued from page 21)

Revisions

Volume 03.01, 2003
E 975-03, Practice for X-Ray Determination of Retained Austenite in Steel with Near Random Crystallographic Orientation

E05 on Fire Standards

Revisions

Volume 04.07, 2003
- E 1472-03, Guide for Documenting Computer Software for Fire Models
- E 2058-03, Test Methods for Measurement of Synthetic Polymer Material Flammability Using a Fire Propagation Apparatus FPA
- E 2067-03, Practice for Full-Scale Oxygen Consumption Calorimetry Fire Tests

E06 on Performance of Buildings

New Standards

Volume 04.11, 2003
E 2322-03, Test Method for Conducting Traverse and Concentrated Load Tests on Panels Used in Floor and Roof Construction

Volume 04.12, 2003
E 2321-03, Practice for Use of Test Methods E 96

Revisions

Volume 04.11, 2003
- E 661-03, Test Method for Performance of Wood and Wood-Based Floor and Roof Sheathing Under Concentrated Static and Impact Loads
- E 695-03, Test Method of Measuring Relative Resistance of Wall, Floor, and Roof Construction to Impact Loading
- E 779-03, Test Method for Determining Air Leakage Rate by Fan Pressurization
- E 864-03, Practice for Surface Preparation of Aluminum Alloys to be Adhesively Bonded in Honeycomb Shelter Panels
- E 1368-03, Practice for Visual Inspection of Asbestos Abatement Projects
- E 1556-03, Specification for Epoxy Resin System for Composite Skin, Honeycomb Sandwich Panel Repair
- E 1602-03, Guide for Construction of Solid Fuel Burning Masonry Heaters
- E 1663-03, Classification for Serviceability of an Office Facility for Typical Office Information Technology

Volume 04.12, 2003
- E 1796-03, Guide for Selection and Use of Liquid Coating Encapsulation Products for Leaded Paint in Buildings
- E 1797-03, Specification for Reinforced Liquid Coating Encapsulation Products for Leaded Paint in Buildings

Volume 04.12, 2004
- E 1728-03, Practice for Collection of Settled Dust Samples Using Wipe Sampling Methods for Subsequent Lead Determination
- E 1792-03, Specification for Wipe Sampling Materials for Lead in Surface Dust

E07 on Nondestructive Testing

Revision

Volume 03.03, 2003
E 164-03, Practice for Ultrasonic Contact E

E08 on Fatigue and Fracture

Revisions

Volume 03.01, 2000
E 1681-03, Test Method for Determining Threshold Stress Intensity Factor for Environment-Assisted Cracking of Metallic Materials

Volume 03.01, 2004
E 740-03, Practice for Fracture Testing with Surface-Crack Tension Specimens

E10 on Nuclear Technology and Applications

New Standards

Volume 12.02, 2003
E 2304-03, Practice for Use of a Lif Photo-Fluorescent Film Dosimetry System

Revisions

Volume 12.02, 2003
F 1736-03 (Includes change to title), Guide for Irradiation of Finfish and Aquatic Invertebrates Used as Food to Control Pathogens and Spoilage Microorganisms

E11 on Quality and Statistics

New Standards

Volume 14.02, 2000
E 2281-03, Practice for Process and Measurement Capability Indices

E15 on Industrial and Specialty Chemicals

New Standards

Volume 15.05, 2004
E 2313-03, Test Method for Aldehydes in Monoethylene Glycol Spectrophotometric Method

E29 on Particle and Spray Characterization

Revisions

Volume 14.02, 2004
E 1919-03, Guide for Worldwide Published Standards Relating to Particle and Spray Characterization

E35 on Pesticides and Alternative Control Agents

New Standards

Volume 11.05, 2003
- E 2314-03, Test Method for Determination of

(Continued on page 23)

(Continued from page 22)

Effectiveness of Cleaning Processes for Reusable Medical Instruments Using a Microbiologic Method Simulated Use Test
- E 2315-03, Guide for Assessment of Antimicrobial Activity Using a Time-Kill Procedure
- E 2316-03, Test Method for Determination of Particles Resulting from the Attrition of Granular Pesticides

E37 on Thermal Measurements

Revision

Volume 14.02, 2003
E 2040-03, Test Method for Mass Scale Calibration of Thermogravimetric Analyzers

E42 on Surface Analysis

Revision

Volume 03.06, 2000
E 1127-03, Guide for Depth Profiling in Auger Electron Spectroscopy

E44 on Solar, Geothermal and Other Alternative Energy Sources

Revision

Volume 12.02, 2003
E 1008-03 (Includes change to title), Practice for Installation, Inspection, and Maintenance of Valve-Body Pressure-Relief Methods for Geothermal and Other High-Temperature Liquid Applications

E47 on Biological Effects and Environmental Fate

Revision

Volume 11.05, 2003
E 1191-03a, Guide for Conducting Life-Cycle Toxicity Tests with Saltwater Mysids

4.6 ASTM F Standards

F12 on Security Systems and Equipment

Revision

Volume 15.08, 2004
F 1642-03, Test Method for Glazing and Glazing Systems Subject to Airblast Loadings

F17 on Plastic Piping Systems

New Standards

Volume 08.04, 2004
F 2263-03 Standard Test Method for Evaluating the Oxidative Resistance of Polyethylene (PE) Pipe to Clorinated Water

4.7 ASTM G Standards

G01 on Corrosion of Metals

Revision

B117-03, Practice for Operating Salt Spray Fog Apparatus

5.0 American Nuclear Society (ANS)

The following list of approved standards actions was extracted from the ANS list of "What's New" in Standards. The complete list can be found at http://www.ans.org/standards/new/. The list is representative of NGS development activities that may be relevant to DOE operations.

5.1 ANS Project Initiations

- BSR/ANS-10.4-200x, Standard for the Verification and Validation of Scientific and Engineering Computer Programs for the Nuclear Industry (revision of ANS - 10.4-1987)
- BSR/ANS-51.1-200x, Nuclear Safety Criteria for the Design of Stationary Pressurized Water Reactor Plants (revision of ANSI/ANS -51.1-1983; R1986; R1988)
- BSR/ANS-52.1-200x, Nuclear Safety Criteria for the Design of Stationary Boiling Water Reactor Plants (revision of ANSI/ANS -52.1-1983; R1988)
- BSR/ANS-58.3-200x, Physical Protection for Nuclear Safety Related Systems and Components (revision of ANSI/ANS-58.3-1992; R1998)
- BSR/ANS-58.23-200x, Standard on Methodology for Fire PRA (new standard)

5.2 ANS Standards Approved

- ANSI/ANS-2.2-2002, Earthquake Instrumentation Criteria for Nuclear Power Plants (revision of ANSI/ANS-2.2-1988)- Newly Published
- ANSI/ANS-2.10-2003, Criteria for the Handling and Initial Evaluation of Records from Nuclear Power Plant Seismic Instrumentation - Published in mid-2003
- ANSI/ANS-2.23-2002, Nuclear Plant Response to an Earthquake (new standard) - Newly Published
- ANSI/ANS-8.3-1997; R2002, Criticality Accident Alarm System (reaffirmation of ANSI/ANS-8.3-1997) - Approved 6/12/2003
- ANSI/ANS-19.1-2002, Nuclear Data Sets for Reactor Design Calculations (revision of ANSI/ANS-19.1-1983; R1989) - Published in mid-2003
- ANSI/ANS-19.3.4-2002, The Determination of Thermal Energy Deposition Rates in Nuclear Reactors (revision of ANSI/ANS-19.3.4-1976; R1983; R1989) - Published in mid-2003
- ANSI/ANS-56.8-2002, Containment System Leakage Testing Requirements (revision of ANSI/ANS-56.8-1994) Newly Published
- ANSI/ANS-58.21, External Events in PRA Methodology (new standard) - Approved 3/3/2003

6.0 National Fire Protection Association (NFPA)

The following list of approved standards actions was extracted from the NFPA News at http://www.nfpa.org. The list is representative of NGS development activities that may be relevant to DOE operations. See the web site for a complete list of standards actions as well as the calls for committee members and list of committees soliciting proposals.

6.1 NFPA Standards for Comment

The following Tentative Interim Amendments (TIAs) have been proposed to the NFPA. They are being published for public review. Comment due date follows each entry.

- NFPA 11-2002 and Proposed 2005 Edition, Standard for Low, Medium, and High-Expansion Foam, TIA Log No. 773 - 03/09/04
- NFPA 70-2002, National Electrical Code®, TIA Log No. 763R - 03/09/04
- NFPA 99-2002, Standard for Health Care Facilities, TIA Log No. 772 - 03/05/04
- NFPA 853-2003, Standard for the Installation of Stationary Fuel Cell Power Plants, TIA Log No. 775 -03/09/04

6.2 Tentative Interim Amendments Issued

The following TIAs have been issued. Copies of these TIAs are available from the NFPA Web site at www.nfpa.org/Codes/TIAs_Errata.asp or from the NFPA Fulfillment Center, 11 Tracy Drive, Avon, MA 02322, or by calling 800-344-3555.

- NFPA 59-2004, Utility LP-Gas Plant Code TIA 04-1 (NFPA 59)
- NFPA 110-2002, Standard for Emergency and Standby Power Systems, TIA 02-1 (NFPA 110)
- NFPA 1977-1998, Standard on Protective Clothing and Equipment for Wildland Fire Fighting, TIA 98-4 (NFPA 1977)
- NFPA 1994-2001, Standard on Protective Ensembles for Chemical/Biological Terrorism Incidents TIA 01-1 (NFPA 1994)
- NFPA 1994-2001 Standard on Protective Ensembles for Chemical/Biological Terrorism Incidents TIA 01-2 (NFPA 1994)