



EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

January 25, 2007

The Honorable Daniel K. Inouye
Chairman
Committee on Commerce, Science
and Transportation
United States Senate
Washington, DC 20510-6125

Dear Mr. Chairman:

I am pleased to submit the annual report on Federal participation in the development and use of voluntary consensus standards during Fiscal Year 2005, in accordance with the Office of Management and Budget (OMB) Circular A-119 and as required by Section 12(d) of the National Technology Transfer and Advancement Act Amendments of 1996 (NTTAA, P.L. 104-113). This report was prepared by the National Institute of Standards and Technology (NIST) at the Department of Commerce based on input from 26 agencies. NIST and OMB staffs continue to work collaboratively with each other and with contributing agencies to improve the availability, accuracy, and relevance of this report.

The NTTAA directs Federal government agencies to achieve greater reliance on voluntary consensus standards developed by private sector and decreased reliance on standards developed by and for the government. It also directs that Federal agency personnel participate in the activities of voluntary consensus standards developing organizations to help ensure that standards produced in the private sector are more likely to be appropriate for use by Federal agencies.

This report demonstrates that agencies develop a minimal number of new standards and perform periodic review of government-unique standards for potential rescission or replacement by commercial standards.

Thank you for your ongoing interest in and support for policies related to Federal use of voluntary consensus standards.

Sincerely,

A handwritten signature in blue ink, reading "Steven D. Aitken", is centered below the word "Sincerely,".

Steven D. Aitken
Acting Administrator
Office of Information
and Regulatory Affairs

Enclosure

Identical Letter Sent to:

The Honorable Vernon J. Ehlers
The Honorable David Wu
The Honorable Bart Gordon
The Honorable Sherwood Boehlert
The Honorable Ted Stevens
The Honorable Daniel Inouye
The Honorable John Ensign
The Honorable John Kerry
The Honorable Richard B. Cheney
The Honorable J. Dennis Hastert

Ninth Annual Report on Federal Agency Use of Voluntary Consensus Standards and Conformity Assessment

December 2006



U.S. DEPARTMENT OF COMMERCE
Carlos M. Gutierrez, Secretary
TECHNOLOGY ADMINISTRATION
Robert C. Cresanti, Under Secretary of Commerce for Technology
NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
William A. Jeffrey, Director

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Summary Report on Federal Agency Use of Private Sector Standards And Conformity Assessment Activities for FY 2005

1.0 – Executive Summary

The U.S. Department of Commerce's National Institute of Standards and Technology (NIST) prepares this summary report for the Office of Management and Budget (OMB) in compliance with OMB Circular A-119 and Public Law 104-113, the National Technology Transfer and Advancement Act (NTTAA). As required by Section 9 of the Circular, this report describes activities related to Federal use of voluntary consensus standards (VCSs) by 26 agencies during FY 2005. The report also summarizes voluntary agency reporting on coordination of conformity assessment activities.

As reported by agencies, the cumulative number of VCSs in use in their regulatory activities in FY 2005 stood at 6,229, a 37% increase from FY 2004. New uses in FY 2005 totaled 1,670, of which 243 were substitutions for government-unique standards. *The significant reported increase in use of VCSs in FY 2005 is primarily the result of continued improvements in the reporting process implemented by DHS, which reported 987 new uses. During the year, four government-unique standards were discontinued and one new one implemented. Since the enactment of the NTTAA there has been a fundamental shift in how the Federal government develops and deploys standards. Since the inception of this report, agencies have adopted and continue to use only a small number of government-unique standards in lieu of voluntary consensus standards. (See Table B-1). The Act has successfully encouraged agencies to first look to voluntary consensus standards to meet their needs rather than to develop government-unique standards.*

The Department of Defense (DoD) continues to lead the Federal government in the use of VCSs. Data reported each year since 1997 do not include all nongovernmental standards currently in use by DoD, which launched its efforts to minimize use of government-unique standards prior to the enactment of the NTTAA. DoD's inventory of private sector standards stood at 9,083 at the close of FY 2005.

The Federal government is a key player in the U.S. private sector voluntary standards system. The 3,954 agency representatives who participated in a total of 409 standards developing organizations in FY 2005 were instrumental in ensuring agency compliance with the NTTAA and the OMB Circular. Even more importantly, government participation means that government users understand both the intent and the content of specific standards. While the number of standards bodies with Federal agency participation continued to decline in FY 2005, the number of agency staff participating in standards activities reached an all-time high.

Reports for FY 2005 show that agencies now recognize or list a wide range of national and international private sector consensus standards as a component of agency guidance or recommendations in key areas. They also make "beyond-regulation" use of voluntary consensus bodies and of conformity assessment programs operated by the private sector.

Some Federal agencies leverage their partnerships with the private sector in both the standards and conformity assessment realms to address national policy and technology needs. Partnership vehicles include standards panels and joint development of standards strategies and roadmaps in areas ranging from homeland security to health information.

2.0 – Overview and Scope

This report fulfills the reporting requirements of Section 12 of the NTTAA and of OMB Circular A-119. It describes Federal agency activities related to the use of private sector standards in regulation, procurement and conformity assessment during FY 2005. In close consultation with OMB, NIST formulates this report based on inputs submitted to NIST by Federal agencies in fulfillment of the requirements of OMB Circular A-119. Section 12 of the Act, enacted on March 7, 1996, directs Federal government agencies to achieve two main goals. First, the Federal government must achieve greater reliance on voluntary consensus standards developed by the private sector. Second, the Federal government must decrease its dependence on government-unique standards developed by and for the Federal government. The NTTAA also directs Federal agency personnel to participate in the activities of voluntary consensus standards developing organizations (SDOs) so that the SDOs remain familiar with the Federal government's position on standards and consider that position in their final standards documents. This provision is intended to help ensure that standards produced in the private sector will be more appropriate, and cost effective, for use by Federal agencies. While these policies have been a part of the Circular for many years, the enactment of the NTTAA served to codify these policies into statute, thereby reinforcing them.

3.0 – Federal Agency Use of Standards

The OMB Circular requires that Federal agencies use voluntary consensus standards in lieu of government-unique standards in their regulatory and procurement activities. However, a Federal agency is given the discretion to decide not to use existing voluntary consensus standards if the agency determines that use of such standards would either be inconsistent with applicable laws or otherwise impractical.

According to Section 6 of the OMB Circular:

"Use" means the incorporation of a standard in whole, in part, or by reference for procurement purposes, and the inclusion of a standard in whole, in part, or by reference in regulation(s).

"Impractical" includes circumstances in which such use would fail to serve the agency's program needs; would be infeasible; would be inadequate, ineffectual, inefficient, or inconsistent with agency mission; or would impose more burdens, or would be less useful, than the use of another standard.

The Circular also directs agencies to establish a process for a continuing review of their use of standards for purposes of updating such use, including substitution of private sector standards for government-unique standards wherever possible.

NIST, through the Interagency Committee on Standards Policy (ICSP), coordinates the efforts of Federal agencies to report their use of standards in a clear and consistent manner and to eliminate confusing interpretations of the term “use” as well as in what has to be reported by Federal agencies. The ICSP established a work group in FY 2005 to: (1) review the reporting procedures for determining the number of private sector standards used by Federal agencies; and (2) establish guidelines as to what agencies should report. The group works with OMB as part of the continuing effort to increase the accuracy and consistency of agency data. The guidance produced by the new work group should help agencies present a more accurate report of the total number of the standards they use and of agency participation in standards activities.

In FY 2005, NIST also conducted its first intra-government training session to clarify agency responsibilities for reporting standards usage under the NTTAA. Approximately 20 representatives of various Federal agencies attended the NTTAA training session. The training included a round-table discussion of issues and problems in reporting agency use of standards. One major issue identified during the FY 2005 session was related to the turnover in agency staff. New staff members who are assigned reporting responsibilities are often unaware of the NTTAA, the Circular, and their agency’s duties and responsibilities under both. This lack of awareness has sometimes led to inconsistent, incomplete, or delayed reporting. NIST plans to continue its training efforts for newer ICSP representatives so that the requirements of the NTTAA and the Circular are carried out effectively.

3.1 – Government-Unique Standards Used in Lieu of Voluntary Consensus Standards

A major goal of the NTTAA is to reduce the need for Federal government use of government-unique standards. Hence, Section 6 of the Circular requires that Federal agencies report such use and explain the reason(s) why their agencies must use government-unique standards in lieu of private sector standards. However, reporting of such use is limited to only those situations where an applicable private sector standard exists. If there is no applicable private sector standard available to address the agency’s needs, then the use of a government-unique standard is not required to be reported. In the past, some agencies have reported the use of government-unique standards in cases where no applicable private sector standard was available. NIST continues to work with the agencies to clarify that no reporting is required in these cases.

Section 12 of the Circular allows Federal agencies to report their use of private sector standards on either a “categorical” or a “transactional” basis. Those agencies that report on a “categorical” basis are not required to list each instance that a government-unique standard is used in lieu of a private sector standard in procurement actions. Agencies that routinely reference private sector or government-unique standards in their numerous

procurement actions can report such usage on a “categorical” basis if they meet other requirements outlined in the Circular. For example, the agency must maintain a centralized standards management system that identifies how the agency uses both government-unique and private sector standards. The agency must also maintain records on the groups or categories in which the agency uses government-unique standards in lieu of private sector standards. Such agencies are also required to have a system in place to ensure that government-unique standards are developed only when suitable private sector standards are not available for use. At present, only DoD and the National Aeronautics and Space Administration (NASA) consistently report on a “categorical” basis. In those cases when government-unique standards are required because private-sector standards do not exist, use of the government-unique standard is not subject to reporting.

Regulatory agencies must report their standards use on a “transactional” basis because they use far fewer standards in their rulemaking processes than do agencies, such as DoD, that engage in extensive procurement activities. This means that these agencies must report every time that a standard is used, typically by reference in a regulation.

Table 3.1 illustrates the use of government-unique standards (that is, the total number used, by agency and the U.S. Government as a whole, by year) in lieu of voluntary consensus standards since FY 1997, as well as the number of government-unique standards introduced and discontinued in each fiscal year. For FY 2005, the Department of Agriculture (USDA) reported the new use of a government-unique standard. The Government Printing Office (GPO) identified four instances where the use of government-unique standards was previously reported even though no applicable VCS existed. The four are recorded as discontinued. The Department of Interior and GPO reported new government-unique standards in FY 2005; however, they are not in lieu of voluntary consensus standards and therefore not included in the report.

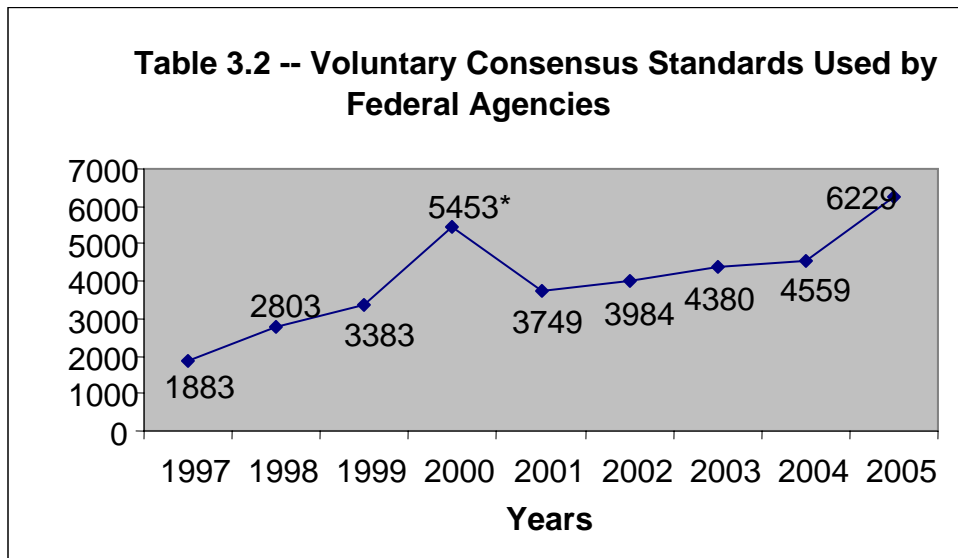
Agency	1997	1998	1999	2000	2001	2002	2003	2004	2005
USDA									1
HHS	3	3	3	3	3	3	3	2	2
HUD				2	2	2	2	2	2
DOL					1	2	4	5	5
DOT	1	2	2	2	2	3	3	3	3
EPA		3	28	29	40	45	50	50	50
GSA				3	2	2	3	2	2
NARA				1	1	1	1	1	1
CPSC				1	1	1	2	2	2
GPO				4	4	4	4	4	0
Total in use	4	8	33	45	56	63	72	71	68
New Uses	+4	+4	+25	+12	+12	+7	+9	+1	+1
Discontinued					-1			-2	-4

These changes yield a net total of 68 government-unique standards reported as being used in lieu of voluntary consensus standards during FY 2005.

A complete listing of the government-unique standards used in lieu of voluntary consensus standards from FY 1997 through FY 2005 is available in Appendix C of this report. The list includes the justification(s) for not using each listed voluntary consensus standard. It should be noted that agency justifications tend to focus on the need for more detailed requirements, higher performance specifications and measurements, and/or the need to accommodate highly specialized technologies not yet adequately addressed by voluntary consensus standards.

3.2 – Current Federal Agency Use of Voluntary Consensus Standards (VCSs)

Federal agencies annually report the total number of VCSs they used during the previous fiscal year. For FY 2005, agencies reported a total of 1,670 new uses of VCSs, with a cumulative total number of uses of VCSs reported since 1997 of 6,229. The significant increase in FY 2005 is primarily the result of the improved reporting process implemented by DHS, which reported 987 new uses. Table 3.2 illustrates the upward trend in the total number of VCSs in use by Federal agencies.

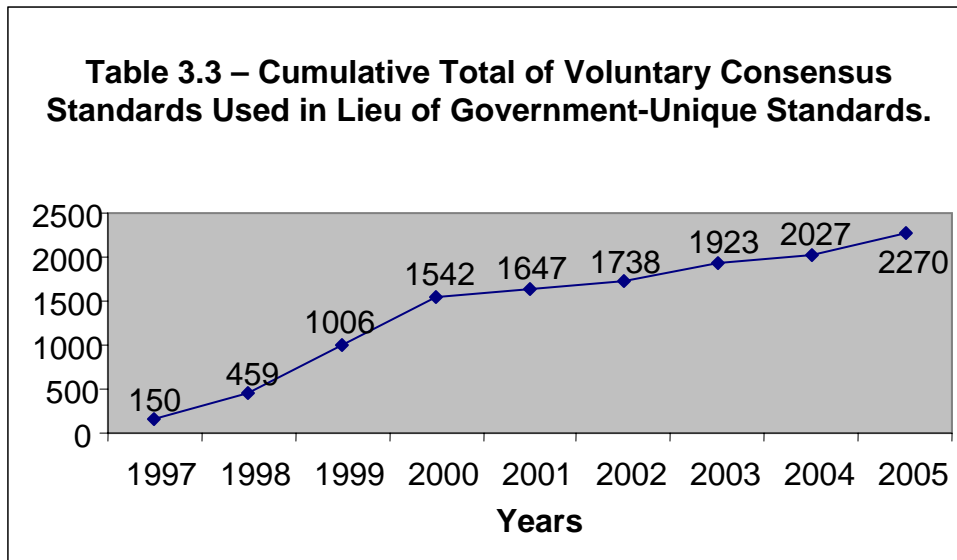


* The increase of VCS usage during FY 2000 was due largely to a reported increase of more than 1500 VCSs used by the Department of Interior. This irregularity is attributable to erroneous interpretations of the term “use” by DOI as described in Section 3.0 of this report. These 1500 VCSs were withdrawn from the inventory for subsequent reporting years.

It should be noted that, since these data include only those standards used since the 1997 onset of agency reporting, the data do not include all non-governmental standards currently in use by DoD, which initiated efforts to minimize use of government-unique standards prior to enactment of the NTTAA. DoD continues to be the leader in the adoption of private sector standards reporting a total inventory of 9,083 private sector standards for FY 2005.

3.3 – Current Agency Reporting on Voluntary Consensus Standards Substituted for Government-Unique Standards

Federal agencies also report annually on the number of voluntary consensus standards they have substituted for government-unique standards during the year. Table 3.3 illustrates the cumulative total number of substitutions each year since FY 1997. In FY 2005, Federal agencies substituted 243 voluntary consensus standards for government-unique standards. After an intense initial effort to substitute many standards, the trend within the Federal government to make such substitutions is still increasing although at a slower pace.



4.0 – Federal Participation in Private Sector Standards Activities

OMB Circular A-119 states that Federal agencies “must consult with voluntary consensus standards bodies, both domestic and international, and must participate with such bodies in the development of voluntary consensus standards when consultation and participation is in the public interest and is compatible with their missions, authorities, priorities, and budget resources.” The Circular goes on to declare that “agency support provided to a voluntary consensus standards activity must be limited to that which clearly furthers agency and departmental missions, authorities, priorities, and is consistent with budget resources.”

4.1 – Participation Data for FY 2005

In FY 2005, agencies reported participation in 409 private sector standards bodies, compared to 431 in FY 2004. The list of organizations includes American National Standards Institute (ANSI)-accredited voluntary consensus standards developers, industry and trade associations, and international organizations.

Federal agencies are also required by OMB to report the number of Federal employees who participate in private sector standards bodies. This includes not only those who serve on technical standards development committees, subcommittees, or workgroups, but also those who participate in management activities, annual meetings, or seminars. In FY 2005, agencies reported that 3,954 employees participated in private sector standards body activities. This was an increase of 736 participants from FY 2004.

A complete listing of the standards developing organizations in which Federal agencies participated can be viewed in the extended appendices to this report located at <http://standards.gov>. Data detailing FY 2005 participation for each agency is provided in Appendix B.

4.2 – Strategic Partnerships

Today, standards are playing a valuable role in tackling some of the important issues facing the country today. To best address these standards needs, the government and private sector are forming strategic partnerships to develop standards that will reduce costs, improve quality, and provide greater value to all stakeholders.

For example, the development of appropriate standards for addressing health informatics, computer security, and homeland security will provide for common and uniform requirements to help ensure effective and interoperable products.

In support of the President's Health Information Technology Agenda, the Office of the National Coordinator for Health Information Technology in the Department of Health and Human Services has contracted with the American National Standards Institute (ANSI) to organize the Healthcare Information Technology Standards Panel (HITSP). HITSP serves as a cooperative partnership between the public and private sectors for the purpose of achieving a widely accepted and useful set of standards specifically to enable and support widespread interoperability among health related software applications. The HITSP is comprised of a wide range of stakeholders that will assist in the harmonization of the standards needed for the U.S. Nationwide Health Information Network (NHIN).

The General Services Administration's E-Authentication Initiative will provide a trusted and secure standards-based authentication architecture to support Federal E-Government applications and initiatives. Standards will provide a uniform process for establishing electronic identity and eliminate the need for each initiative to develop a redundant solution for the verification of identity and electronic signatures. E-Authentication's distributed architecture will also allow citizens and businesses to use non-government issued credentials to conduct transactions with the government.

Successful implementation of E-Authentication will produce numerous benefits for the public and the Federal government. Citizens and businesses will have a secure, easy-to-use and consistent method of proving identity to the government and will be spared the burden of having to keep track of multiple sets of registration information. Federal

agencies will be able to reduce authentication system development and acquisition costs and reallocate labor resources previously used to develop such systems.

Also, in 2003, ANSI formed the American National Standards Institute's Homeland Security Standards Panel (ANSI-HSSP) which identifies existing consensus standards, or, if none exist, assists the Department of Homeland Security (DHS) and those sectors requesting assistance to accelerate development and adoption of consensus standards critical to homeland security. The ANSI-HSSP promotes a positive, cooperative partnership between the public and private sectors in order to meet the needs of the nation in this critical area.

We expect to see increased public-private partnerships focusing on strategic standards needs in the future as both government and private sector work together to identify standards that are critical to facilitating innovation and global competitiveness, while also protecting public health, safety and the environment. Both OMB Circular A-119 and the NTTAA recognize the valuable contributions that standards make in enabling the government to carry out its responsibilities. Close interaction and cooperation between the public and private sectors are critical to developing and using standards that serve national needs and support innovation and competitiveness.

5.0 – Federal Agency Conformity Assessment Activities

The NTTAA requires NIST to coordinate Federal, State, and local standards activities and conformity assessment activities with private sector standards activities and conformity assessment activities, with the goal of eliminating unnecessary duplication and complexity in the development and promulgation of conformity assessment requirements and measures. Federal conformity assessment activities are a means of providing assurance that the products and services regulated or procured by Federal agencies have the required characteristics and/or perform in a specified manner. Agency conformity assessment procedures may include sampling and testing, inspection, accreditation, certification; licensing; product listing; the submission to an agency of manufacturing, operational, and related data for review; manufacturer self-declaration of conformity to agency requirements; mandatory labeling and advertising requirements; establishment of national requirements which are adopted/enforced at state and local government levels; issuance of regulatory guidelines; pre-marketing approval requirements; post-marketing monitoring requirements; and the conduct of environmental impact assessments.

Each agency is responsible for coordinating its conformity assessment activities with those of other cognizant government agencies and with those of the private sector in order to make more productive use of the increasingly limited federal resources available for the conduct of conformity assessment activities and to reduce unnecessary duplication.

This year, agencies reported several examples of using existing public and private sector conformity assessment systems to reduce the duplication of programs and associated

costs. Examples of ongoing cooperation in conformity assessment activities include the following:

The Department of Health and Human Services (HHS) reported several activities including:

FDA's participation on ongoing conformity assessment activities such as the ANSI Accreditation and International Conformity Assessment Committees and ANSI's Board Committee on Conformity Assessment, as well as American Society for Testing and Materials (ASTM) Committee E-36 on Conformity Assessment allows FDA to ensure that its needs are met while utilizing existing recognition and accreditation criteria.

FDA's Center for Devices and Radiological Health allows a medical device manufacturer to submit a Declaration of Conformity to a "recognized standard" as described in ISO/IEC Guide 22 in its standards recognition program and has developed an MRA with the European Union on mutual recognition of each other's conformity assessment procedures related to manufacture and marketing of medical devices. This reduces costs for manufacturers and decreases the time to market for approved products.

The FDA Office of Regulatory Affairs (FDA/ORA) actively participates in the National Cooperation for Laboratory Accreditation (NACLA), serving as a member of the NACLA Executive Board of Directors and participating in the NACLA Recognition Committee for Accrediting Bodies who apply for mutual recognition. This participation may form the basis for the future accreditation of FDA laboratories.

With the idea of enhancing international credibility and recognition, FDA's Center for Food Safety and Applied Nutrition (CFSAN) is moving towards ISO accreditation of its own laboratories that perform regulatory work.

GSA reported employing a number of conformity assessment activities including direct inspection, testing, supplier and third party testing, and product qualification and listing.

HUD reported that all of its 28 conformity assessment programs under the HUD Building-Products Standards & Certification Programs are in compliance with ISO guidelines and procedures. Reliance on these standards is consistent with the private sector practices and provides uniformity in the conformity assessment process, whether administered by HUD or by private sector organizations referenced by HUD.

NASA reported that it routinely utilizes other government agencies to assist with its Contract Administration Services, including substantial conformity assessment activities. The Defense Contract and Audit Agency, Defense Contract Management

Agency, Office of Naval Research, and other activities continue to provide conformity assessment services for NASA Programs.

The Department of Commerce reported that the Nuclear Regulatory Commission (NRC) now accepts accreditation by qualified laboratory accreditation bodies as an acceptable alternative to a supplier audit, commercial-grade survey, or in-process surveillance for the qualification of commercial grade calibration service suppliers. This reduces resource burdens on industry and eliminates costs related to redundant audits. The Department also reported that:

NIST provides technical support for the Inter-American Accreditation Cooperation (IAAC). Such arrangements/agreements are designed to harmonize conformity assessment practices and promote the global acceptance of conformity assessment results from qualified bodies to minimize the need for and cost of redundant conformity assessment activities.

NIST staff worked with the Consumer Product Safety Commission (CPSC) to refine the conformity assessment portion of CPSC's China strategy (to reduce the number of unsafe consumer products imported from China into the United States).

NIST staff provided advice and expertise to the Department of Homeland Security for the design and implementation of a laboratory accreditation program for laboratories that test radiation detectors for homeland security application by federal, state, and local personnel. The laboratory accreditation program, to be carried out by NVLAP, is intended to be the first step towards establishing a comprehensive certification program for radiation detectors.

Federal agencies continue to participate in a variety of conformity assessment activities that are either conducted by private sector organizations or are government-run activities that encourage private sector participation. A number of Federal agencies are working jointly with other agencies and non-governmental organizations in the development of conformity assessment policies and guidelines.

6.0 – Evaluation of the Effectiveness of OMB Circular A-119

During FY 2005, the majority of reporting agencies either had no comments on the effectiveness of OMB Circular A-119 or indicated that they found the Circular effective in helping them manage their standards development programs. However, some agencies did provide substantive comments concerning the Circular. Several recommended that consideration be given to simplifying the Circular and its reporting requirements. Agency comments are summarized below.

One department reported that the existing OMB policy concerning participation in VCSs activities is a tool that many agencies could employ to encourage support for VCSs programs. However, that department noted that it is difficult to implement the requirement to collect participant data effectively and recommended that NIST collect

comprehensive participant data from standards developing organizations, rather than each agency reporting individually.

Another agency recommended obtaining feedback from regulated communities on the use of VCSs, noting that it has received relatively few comments in response to proposed regulations focusing on the use of VCSs.

7.0 – The Interagency Committee on Standards Policy

During FY 2005, 54 individuals served on the ICSP including agency Standards Executives, their alternates, NIST support staff, and representation from OMB. The Committee experienced significant turnover in FY 2005, with eight Standards Executive positions vacant at the end of the year. The Department heads of those agencies with vacant Standards Executive positions will be contacted emphasizing the need and importance of filling these positions.

A new organizational member was added to the ICSP in FY 2005: the U.S. Access Board, formerly the Architectural and Transportation Barrier Compliance Board, accepted an invitation to join the ICSP. The Access Board is an independent Federal Board created by Congress in 1973 to address public access for persons with disabilities. The Access Board makes extensive use of voluntary consensus standards.

The ICSP met three times in FY 2005, including one joint meeting with the American National Standards Institute's Government Member Forum. The Committee continues to explore possible future joint meetings with other organizations having related interests.

Some of the issues discussed during the FY 2005 ICSP meetings included:

1. The ANSI/EPA efforts on Environmentally Preferable Purchasing (EPP).
2. The Leadership in Energy and Environmental Design (LEEDs) Green Building Rating System and its use by Federal agencies.
3. Current status of the International Organization for Standardization (ISO) Social Responsibility Working Group and ANSI's Homeland Security Standards Panel.
4. The Department of Energy's information system for managing standards development and participation; i.e., RevCom.
5. Personnel certification in the government sector.
6. Revision and implementation of the U.S. Standards Strategy.
7. Changes in requirements of the ANSI program to accredit standards developing organizations.

8.0 – Challenges and Opportunities

Federal agencies continue to experience personnel turnover at all organizational levels due to reorganizations, accelerated or early retirements, and normal attrition. These changes make it difficult for Federal agencies to retain high-level managers who understand the importance of standards and who visibly support standards-related

activities. Staff turnover has also caused a decrease in “institutional memory” of past standards policies, responsibilities, and practices. To address this issue, NIST recently developed and is now providing training for Federal employees who are engaged in developing standards and using them in regulation or procurement actions. NIST is also creating a handbook for Standards Executives so that they will have readily available the information needed to make decisions about the use of standards.

The availability and dissemination of standards information continues to be a challenge for agencies. The internet portal <http://standards.gov> created by NIST provides a one-stop e-government location for information related to the use of voluntary consensus standards. The website offers background, materials, useful links, and search tools for locating information about the use of standards in government. In FY 2005, NIST updated the inventory of standards referenced in the Code of Federal Regulations (CFR). This inventory allows for the identification of currently used government-unique standards. Identification of these government-unique standards may uncover opportunities for agencies to replace these standards through collaborative efforts with private-sector standards developers. The web site also serves as a forum for providing ongoing, practical guidance, tools, and information needed by agencies to successfully implement the NTTAA. For example, Federal agencies can now use standards.gov to electronically submit their annual reports on standards and conformity assessment activities. The electronic reporting system is designed to reduce paperwork at the agency level, to decrease the level of effort previously needed to organize and analyze agency data, and to facilitate and expedite the preparation of NIST’s annual report to OMB.

Sustained high-level Federal agency leadership has been identified as the primary driver of successful NTTAA implementation. Top agency leaders have the ability to direct policy and resources in ways that bring about other desirable outcomes, such as increased Federal participation and collaboration with the private sector. Ensuring that agency Standards Executives have the tools at hand to show how standards and the standards making process contribute to their agency’s mission is a continuing priority.

Finally, there are opportunities for improvement to be made in the methods and data that underpin sound economic analyses of the benefits of greater use of private sector standards and conformity assessment activities. NIST is now laying the groundwork necessary for relevant economic analyses to be conducted across the spectrum of government agencies. As a first step, existing economic analyses of the impact of standards on the economy are being collected as a basis for determining the most relevant factors. The goal is to have the tools and data in place within three to five years to be able to produce the quantitative and objective analyses necessary to demonstrate the utility of voluntary consensus standards for the government.

While there is more work to be done, there have been instances of success where voluntary consensus standards have been used in lieu of government-unique standards. Some examples are:

- By having all of their Army customers in the Midwestern United States buy to only one

ASTM specification, the Defense Logistics Agency's Defense Energy Support Center (DESC) was able to accrue savings of \$820,000 in both 2004 and 2005.

- The United States Access Board, coordinating extensively with model building code organizations, revised its Americans with Disabilities Act and Architectural Barriers Act (ABA) Accessibility Guidelines to make them more consistent with model building codes and industry standards such as those from the National Fire Protection Association and the International Code Council. This effort will allow harmonization with model codes and standards, greatly facilitating these two Acts and fostering a better understanding between the building community and the Access Board as to the needs for accessibility.

The Nuclear Regulatory Commission's (NRC) endorsement of Sections III (Construction) and XI (In-service Inspection) of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code and Code for Operation and Maintenance of Nuclear Power Plants (In-service Testing of Pumps and Valves) not only saved the Commission valuable time and resources but also encouraged uniform application of requirements, promotion of regulatory efficiency and enhancement of public confidence in the regulatory process.

In a few cases, agencies are able to demonstrate clear economic benefits on a case-by-case basis. The Department of Defense has conducted several case studies that demonstrate a range of positive results from its collaborations with the private sector on standardization issues. Some of DoD's documented benefits include:

- Reduced labor costs to operate and maintain equipment;
- Lower inventory costs;
- Improved safety;
- Improved equipment readiness; and
- Enhanced interchangeability, reliability, and availability of equipment and parts and better equipment performance.

In addition, some Federal agencies are able to point to specific instances where they have benefited from NTTAA implementation in ways that cannot be quantitatively measured. For example, the Environmental Protection Agency (EPA) is making "beyond-regulation" use of voluntary consensus bodies and of ANSI. EPA has acknowledged the important role that voluntary consensus organizations play in the development and promulgation of standards for environmentally conscientious products. EPA has partnered with ANSI to educate and train standards organizations on the need for such standards. Together, EPA and ANSI have provided organizations with criteria that can serve as a guideline for use by standards committees working in this area. ANSI has also conducted several workshops and training sessions in cooperation with EPA and posted useful information in this area on ANSI's website.

All these efforts indicate a real and growing reliance on voluntary consensus standards benefiting not only the government, but also businesses and the American public

Appendix A – FY 2005 List of Federal Agencies That Report

<u>Agency</u>	<u>Acronym</u>
Department of Agriculture	USDA
Department of Commerce	DOC
Department of Defense	DoD
Department of Energy	DOE
Department of Education	ED
Department of Health and Human Services	HHS
Department of Homeland Security	DHS
Department of Housing and Urban Development	HUD
Department of the Interior	DOI
Department of Justice	DOJ
Department of Labor	DOL
Department of State	DOS
Department of Transportation	DOT
Department of the Treasury	TRES
Department of Veterans Affairs	VA
Environmental Protection Agency	EPA
Agency for International Development	USAID
General Services Administration	GSA
National Archives and Records Administration	NARA
National Aeronautics and Space Administration	NASA
National Science Foundation	NSF
Consumer Product Safety Commission	CPSC
Federal Communications Commission	FCC
Federal Trade Commission	FTC
Nuclear Regulatory Commission	NRC
Government Printing Office	GPO

Appendix B – FY 2005 Federal Agency Use of Standards and Participation in Private Sector Standards Bodies

FY 2005 Federal Agency Information On Participation/Adoption Of Private Sector Standards Activities							
Required by OMB Circular A-119							
Agency	Government unique standards used in lieu of voluntary consensus standards	Private sector standards substituted for government unique standards	Private sector standards used this year	Employee participation in private sector standards bodies	Change from previous year	Private sector standards bodies with agency participation	Change from previous year
USDA	1	10	238	52	-30	17	-18
DOC	0	0	0	442	4	98	4
DoD	*	227	227	1106	670	118	-5
DOE	0	0	1430	761	32	70	5
ED	0	0	60	4	4	5	5
HHS	2	3	945	594	91	114	-68
DHS	0	0	1000	160	150	50	43
HUD	2	0	300	4	-6	4	-1
DOI	0	2	768	74	-195	26	7
DOJ	0	0	0	1	-4	0	-1
DOL	5	0	1	52	-2	16	-3
DOS	0	0	0	8	1	1	0
DOT	3	0	381	209	42	47	6
TRES	NR	NR	NR	NR	NR	NR	NR
VA	0	0	0	4	0	20	2
EPA	50	0	50	52	7	26	3
USAID	NR	NR	NR	NR	NR	NR	NR
GSA	2	0	516	22	-69	25	-1
NARA	1	0	89	16	-3	10	0
NASA	*	1	195	172	25	31	1
NSF	0	0	0	4	-1	4	-1
CPSC	2	0	28	28	-2	8	0
FCC	0	0	0	36	31	13	6
FTC	0	0	0	0	0	0	0
NRC	0	0	1	153	8	15	2
GPO	0	0	0	0	-2	0	-6
Totals	68	243	6229	3954	736	**	**

NR: Not Reported

* Agencies reporting on a categorical basis per OMB Circular A-119, Section 12.

** Totals not provided. (Totals would include multiple counting of certain bodies that enjoy simultaneous participation from two or more Federal agencies.)

Appendix C –Government-Unique Standards Used in Lieu of Voluntary Consensus Standards

Appendix C.1 – Government-Unique Standards Used in Lieu of Voluntary Consensus Standards Incorporated in FY 2005

Agency: Department of Agriculture (USDA)

Government Standard: USDA Forest Service Specification 5100-307; International Specification for Fire Suppressant Foam for Wild land Fires, Aircraft or Ground Application [Incorporated 2005]

Voluntary Standard

NFPA 1150 - Standard on Fire-Fighting Foam Chemicals for Class A Fuels in Rural, Suburban, and Vegetated Areas.

Rationale

Foam fire suppressants contain foaming and wetting agents. The foaming agents affect the accuracy of an aerial drop, how fast the water drains from the foam and how well the product clings to the fuel surfaces. The wetting agents increase the ability of the drained water to penetrate fuels. Foam fire suppressants are supplied as wet concentrates.

This standard was developed with international cooperation for Class A Foam used in wild land fire suppression situations and equipment. This standard was created by the USDA Forest Service in cooperation with the Department of Interior (DOI), the State of California, Department of Forestry and Fire Protection and the Canadian Interagency Forest Fire Center.

The National Fire Protection Association (NFPA) does have a standard for Class A Foam, (NFPA 1150 - Standard on Fire-Fighting Foam Chemicals for Class A Fuels in Rural, Suburban, and Vegetated Areas). The Forest Service has not chosen to utilize NFPA 1150 as it is designed specifically for application by municipal fire agencies in the wild land-urban interface, utilizing apparatus and situations that they are likely to encounter. The Forest Service's GUS for foam products is specific to use by wild land fire equipment and situations that are unique, e.g. helicopter use of foams, remote storage situations, and varied quality of water sources in the wild land settings. The agency feels this standard more accurately reflects the needs and mission of the federal wild land fire suppression agencies.

Appendix C.2 –Instances of Government-Unique Standards Used in lieu of Voluntary Consensus Standards Discontinued in FY 2005

Agency: Government Printing Office (GPO)

Government Standard: FED-STD 209 [Incorporated: 2000] [Discontinued: 2005]

Voluntary Standard

ISO 14644-1 & ISO 14644-2

Rationale

Military and Federal quality assurance standards used and gradually phased out.

Government Standard: MIL-STD 105 [Incorporated: 2000] [Discontinued: 2005]

Voluntary Standard

ANSI/ASQC Z1.4

Rationale

Military and Federal quality assurance standards used and gradually phased out.

Government Standard: MIL-STD 1189 [Incorporated: 2000] [Discontinued: 2005]

Voluntary Standard

ANSI/AIM X5-2 & ANSI X3.182

Rationale

Military and Federal quality assurance standards used and gradually phased out.

Government Standard: MIL-STD 498 [Incorporated: 2000] [Discontinued: 2005]

Voluntary Standard

IEEE/EIA 12207.0, IEEE/EIA 12207.1, & IEEE/EIA 12207.2

Rationale

Military and Federal quality assurance standards used and gradually phased out.

Appendix C.3 – Government-Unique Standards Used in Lieu of Voluntary Consensus Standards from FY 1997 through FY 2005

Agency: Consumer Product Safety Commission (CPSC)

Government Standard: CPSC CFR Parts 1213, 1500, and 1513 [Incorporated: 2000]

Voluntary Standard

ASTM F1427-96

Rationale

The CPSC rule goes beyond the provisions of the ASTM voluntary standard to provide increased protection to children from the risk of death and serious injury from entrapment.

Government Standard: FR/Vol. 68, No. 75/Friday, April 18, 2003, pp. 19142-19147, Metal-Cored Candlewicks Containing Lead and Candles With Such Wicks [Incorporated: 2003]

Voluntary Standard

Voices of Safety International (VOSI) standard on lead in candle wicks

Rationale

The U.S. Consumer Product Safety Commission found that the VOSI standard is technically unsound, and thus would not result in the elimination or adequate reduction of the risk, and that substantial compliance with it is unlikely. See FR/Vol. 68, No. 75/Friday, April 18, 2003, pp. 19145-19146, paragraph H2, Voluntary Standards for further information on this finding.

Agency: Department of Labor (DOL)

Government Standard: Electric Motor-Drive Equipment Rule [Incorporated: 2001]

Voluntary Standard

IEEE Standard 242-1986 Recommended Practice for Protection and Coordination of Industrial and Commercial Power Systems (IEEE Buff Book) and NFPA 70 - national Electric Code

Rationale

The MSHA rule is a design-specific standard. The NFPA and IEEE standards were used as a source for the rule; however, the exact requirements of the rule were tailored to apply specifically to electric circuits and equipment used in the coal mining industry.

Government Standard: Exit Routes, Emergency Action Plans, and Fire Prevention Plans, 29 CFR 1910, Subpart E [Incorporated: 2003]

Voluntary Standard

Life Safety Code, NFPA 101-2000

Rationale

The OSHA standard addresses only workplace conditions whereas the NFPA Life Safety Code goes beyond workplaces. However, in the final rule OSHA stated that it had evaluated the NFPA Standard 101, Life Safety Code, (NFPA 101-2000) and concluded that it provided comparable safety to the Exit Route Standards. Therefore, the Agency stated that any employer who complied with the NFPA 101-2000 instead of the OSHA Standard for Exit Routes would be in compliance.

Government Standard: Fire Protection for Shipyards, 29 CFR Part 1915, Subpart P [Incorporated: 2004]

Voluntary Standard

NFPA 312-2000 Standard for Protection of Vessels During Construction, Repair, and Lay-Up

NFPA 33-2003 Standard for Spray Application Using Flammable or Combustible Materials

Rationale

Many consensus standards were relied on for various provisions in OSHA's final rule, including 15 consensus standards that are incorporated by reference. However, OSHA and its negotiated rulemaking committee determined that there was no single consensus standard available that covered all the topics in the rule.

Government Standard: Sanitary Toilets in Coal Mines, 30 CFR 71, Subpart E [Incorporated: 2003]

Voluntary Standard

Non-Sewered Waste Disposal Systems--Minimum Requirements, ANSI Z4.3-1987

Rationale

The ANSI standard was not incorporated by reference because certain design criteria allowed in the ANSI standard, if implemented in an underground coal mine, could present health or safety hazards. For instance, combustion or incinerating toilets could introduce an ignition source which would create a fire hazard. For certain other design criteria found in the ANSI standard, sewage could seep into the groundwater, or overflow caused by rain or run-off could contaminate portions of the mine.

Government Standard: Steel Erection Standards [Incorporated: 2002]

Voluntary Standard

ANSI A10.13 - Steel Erection; ASME/ANSI B30 Series Cranes Standards

Rationale

There was no one consensus standard available that covered all of the topics covered by OSHA's final rule.

Agency: Department of Transportation (DOT)

Government Standard: 63 FR 17976; April 13, 1998 - Product Safety Signs and Labels [Incorporated: 1998]

Voluntary Standard

ANSI Z535.4 - ANSI Requirements for Color Coded Header Messages for the Different Levels of Hazard

Rationale

NHTSA explained in the NPRM that the American National Standard Institute (ANSI) has a standard⁴ for product safety signs and labels (ANSI Z535.4) that identifies a hierarchy of hazard levels ranging from extremely serious to moderately serious and specifies corresponding hierarchies of signal words, i.e., "danger," "warning," and "caution," and of colors. For the header, the ANSI standard specifies a red background with white text for "danger," an orange background with black text for "warning," and a yellow background with black text for caution."

The ANSI standard specifies that pictograms should be black on white, with occasional uses of color for emphasis, and that message text should be black on white. The agency noted in the NPRM that when it earlier updated the requirements for air bag warning labels to require the addition of color and pictograms, it had chosen not to adopt the colors specified in the ANSI standard. NHTSA chose to use yellow instead of orange in the background of the heading for the air bag warning label, even though the word "warning" was used, because of overwhelming focus group preference for yellow. Only two of the 53 participants preferred orange. Participants generally stated that yellow was more eye-catching than orange. Participants also noted that red (stop) and yellow (caution) had meaning to them, but not orange.

NHTSA asked for comment on three color options for the revised utility vehicle rollover warning label. Proposed label 1 used the ANSI color format with the heading background in orange with the words in black. The remainder of the label had a white background with black text and drawings. Proposed label 2 used a color scheme like the air bag warning labels, which is the same as the ANSI color format except that the background color for the heading in the label is yellow. Proposed label 3 employed the color scheme used in the focus groups - the heading area had a red background with white text. The graphic areas had a yellow background with

black and white drawings. The text area had a black background with yellow text.

Despite focus group preference for the signal word “danger,” the agency proposed the use of the word “warning” as more appropriate to the level of risk. The agency also noted that the word “warning” is used in the air bag warning label.

Recognizing that it might encounter additional conflicts between focus group preferences and the ANSI standard in future rulemakings, NHTSA requested comments in the NPRM on the extent to which any final choice regarding colors and signal words should be guided by the focus group preferences instead of the ANSI standard. NHTSA also requested comments on the broader issue of the circumstances in which it would be appropriate for agency rulemaking decisions to be guided by focus group results or other information when such information is contrary to a voluntary consensus standard such as the ANSI standard.

At this time (February 22, 1999), a final decision is still pending regarding its proposal to upgrade the rollover warning label. As to the general questions it posed in the NPRM, NHTSA recognizes that ANSI's mission differs somewhat from that of the agency's focus groups with respect to the labeling of hazardous situations. ANSI's mission is to develop and maintain a standard for communicating information about a comprehensive hierarchy of hazards, while the focus groups' mission is to design an effective label for a specific hazard. The agency recognizes further that, given the difference in their missions, their conclusions about the appropriate manner of communication might differ on occasion.

Since agency labeling decisions are highly dependent on the facts regarding the specific hazard being addressed, NHTSA anticipates making case-by-case determinations of the extent to which it should follow voluntary standards versus information from focus groups and other sources. NHTSA will rely on its own expertise and judgment in making determinations under the NTTAA and the statutory provisions regarding vehicle safety standards.

Government Standard: Air Bag Warning Label (1997) [Incorporated: 1997]

Voluntary Standard

ANSI ISO

Rationale

The Air Bag Warning Label uses yellow as the background color, instead of orange, in accordance with an ANSI standard and uses a graphic developed by Chrysler Corporation to depict the hazards of being too close to an air bag, instead of the graphic recommended by the ISO. These decisions were based on focus group testing sponsored by the agency which strongly indicated that these unique requirements would be far more effective with respect to safety than the industry standards.

Government Standard: Brake Performance, 49 CFR 393.52 - FMCSA's Performance-Based Brake Testers (PBBTs) Requirement [Incorporated: 2002]

Voluntary Standard

SAE J667 - Brake Test Code Inertia Dynamometer (cancelled February 2002)

SAE J1854 - Brake Force Distribution Performance Guide - Trucks and Buses

Rationale

FMCSA used government-unique standards in lieu of voluntary consensus standards when it implemented its final rule to allow inspectors to use performance-based brake testers (PBBTs) to check the brakes on large trucks and buses for compliance with federal safety standards and to issue citations when these vehicles

fail (67 FR 51770, August 9, 2002). The FMCSA evaluated several PBBTs during a round robin test series to assess their functional performance and potential use in law enforcement. The standard, a specific configuration of brake forces and wheel loads on a heavy-duty vehicle, was used to evaluate the candidate PBBTs and their operating protocols. The agency's rationale for use of the government-unique standards was to verify that these measurements and new technology could be used by law enforcement as an alternative to stopping distance tests or on-road deceleration tests. PBBTs are expected to save time and their use could increase the number of commercial motor vehicles that can be inspected in a given time. Only PBBTs that meet specifications developed by the FMCSA can be used to determine compliance with the Federal Motor Carrier Safety Regulations. The final rule represents a culmination of agency research that began in the early 1990s.

Agency: Environmental Protection Agency (EPA)

Government Standard: 40 CFR 89 - Control of Emissions from New and In-Use Non-Road Compression Ignition Engines [Incorporated: 1999]

Voluntary Standard

ISO 8178 - Reciprocating Internal Combustion Engines, Exhaust Emission Measurement

Rationale

Procedures would be impractical because they rely too heavily on reference testing conditions. Agency decides instead to continue to rely on procedures outlined in 40 CFR Part 90.

Government Standard: 40 CFR 90 - Control of Emission from Non-Road Spark Ignition Engines at or below 19KV [Incorporated: 1999]

Voluntary Standard

ISO 8178 - Reciprocating Internal Combustion Engines, Exhaust Emission Measurement

Rationale

Procedures would be impractical because they rely too heavily on reference testing conditions. Agency decides instead to continue to rely on procedures outlined in 40 CFR Part 90.

Government Standard: 40 CFR 92 - Control of Air Pollution from Locomotives and Locomotive Engines [Incorporated: 2000]

Voluntary Standard

ISO 8178 - Reciprocating Internal Combustion Engines, Exhaust Emission Measurement

Rationale

Procedures would be impractical because they rely too heavily on reference testing conditions. Agency decides instead to continue to rely on procedures outlined in 40 CFR Part 90.

Government Standard: EPA Method 1 – Traverse Points, Stationary Sources [Incorporated: 1999]

Voluntary Standard

ASTM D3154-00, Standard Method for Average Velocity in a Duct (Pitot Tube Method)

Rationale

1. The standard appears to lack in quality control and quality assurance requirements. It does not include the following: (1) Proof that openings of standard pitot tube have not plugged during the test; (2) if differential pressure gauges other than inclined manometers (e.g., magnehelic gauges) are used, their calibration must be checked after each test series; and (3) the frequency and validity range for calibration of the temperature sensors. 2. They are too general, too broad, or not sufficiently detailed to assure compliance with EPA regulatory requirements.

ASTM D3154-91 (1995), Standard Method for Average Velocity in a Duct (Pitot Tube Method)

The standard is too general, too broad, or not sufficiently detailed to assure compliance with EPA regulatory requirements.

Government Standard: EPA Method 10 - Carbon Monoxide, NDIR [Incorporated: 1999]

Voluntary Standard

ASTM D3162 (1994) Standard Test Method for Carbon Monoxide in the Atmosphere (Continuous Measurement by Non-dispersive Infrared Spectrometry)

Rationale

This ASTM standard, which is stated to be applicable in the range of 0.5-100 ppm CO, does not cover the range of EPA Method 10 (20-1,000 ppm CO) at the upper end (but states that it has a lower limit of sensitivity). Also, ASTM D3162 does not provide a procedure to remove carbon dioxide interference. Therefore, this ASTM standard is not appropriate for combustion source conditions. In terms of non-dispersive infrared instrument performance specifications, ASTM D3162 has much higher maximum allowable rise and fall times (5 minutes) than EPA Method 10 (which has 30 seconds).

CAN/CSA Z223.21-M1978, Method for the Measurement of Carbon Monoxide: 3—Method of Analysis by Non-Dispersive Infrared Spectrometry

1. This standard is lacking in the following areas: (1) Sampling procedures; (2) procedures to correct for the carbon dioxide concentration; (3) instructions to correct the gas volume if CO₂ traps are used; (4) specifications to certify the calibration gases are within 2 percent of the target concentration; (5) mandatory instrument performance characteristics (e.g., rise time, fall time, zero drift, span drift, precision); (6) quantitative specification of the span value maximum as compared to the measured value: The standard specifies that the instruments should be compatible with the concentration of gases to be measured, whereas EPA Method 10 specifies that the instrument span value should be no more than 1.5 times the source performance standard. 2. Is too general, too broad, or not sufficiently detailed to assure compliance with EPA regulatory requirements.

Government Standard: EPA Method 101 - Mercury Emissions, Chlor-Alkali Plants (Air) [Incorporated: 2001]

Voluntary Standard

ASTM D6216-98 - Standard Practice for Opacity Monitor Manufacturers to Certify Conformance with Design and Performance Specifications.

Rationale

The EPA incorporates ASTM D6216 (manufacturers certification) by reference into EPA Performance Specification 1, Sect. 5 & 6 in another rulemaking. ASTM D6216 does not address all the requirements specified in PS-1.

Government Standard: EPA Method 101a - Mercury Emissions Sewer/Sludge Incinerator [Incorporated: 2001]

Voluntary Standard

ASTM D6216-98 - Standard Practice for Opacity Monitor Manufacturers to Certify Conformance with Design and Performance Specifications.

Rationale

The EPA incorporates ASTM D6216 (manufacturers certification) by reference into EPA Performance Specification 1, Sect. 5 & 6 in another rulemaking. ASTM D6216 does not address all the requirements specified in PS-1.

Government Standard: EPA Method 10A – Carbon Monoxide for Certifying CEMS [Incorporated: 2001]

Voluntary Standard

CAN/CSA Z223.21-M1978, Method for the Measurement of Carbon Monoxide: 3—Method of Analysis by Non-Dispersive Infrared Spectrometry.

Rationale

1. It is lacking in the following areas: (1) Sampling procedures; (2) procedures to correct for the carbon dioxide concentration; (3) instructions to correct the gas volume if CO₂ traps are used; (4) specifications to certify the calibration gases are within 2 percent of

the target concentration; (5) mandatory instrument performance characteristics (e.g., rise time, fall time, zero drift, span drift, precision); (6) quantitative specification of the span value maximum as compared to the measured value: The standard specifies that the instruments should be compatible with the concentration of gases to be measured, whereas EPA Method 10 specifies that the instrument span value should be no more than 1.5 times the source performance standard. 2. Is too general, too broad, or not sufficiently detailed to assure compliance with EPA regulatory requirements.

Government Standard: EPA Method 12 – Inorganic Lead, Stationary Sources [Incorporated: 2001]

Voluntary Standard

ASTM D4358-94 (1999), Standard Test Method for Lead and Chromium in Air Particulate Filter Samples of Lead Chromate Type Pigment Dusts by Atomic Absorption Spectroscopy

Rationale

These ASTM standards do not require the use of glass fiber filters as in EPA Method 12 and require the use of significantly different digestion procedures that appear to be milder than the EPA Method 12 digestion procedure. For these reasons, these ASTM standards cannot be considered equivalent to EPA Method 12. Also, the subject ASTM standards do not require the use of hydrogen fluoride (HF) as in EPA Method 29 and, therefore, they cannot be used for the preparation, digestion, and analysis of Method 29 samples. Additionally, Method 29 requires the use of a glass fiber filter, whereas these three ASTM standards require cellulose filters and other probable non-glass fiber media, which cannot be considered equivalent to EPA Method 29.

ASTM E1741-95 (1995), Standard Practice for Preparation of Airborne Particulate Lead Samples Collected During Abatement and Construction Activities for Subsequent Analysis by Atomic Spectrometry

These ASTM standards do not require the use of glass fiber filters as in EPA Method 12 and require the use of significantly different digestion procedures that appear to be milder than the EPA Method 12 digestion procedure. For these reasons, these ASTM standards cannot be considered equivalent to EPA Method 12. Also, the subject ASTM standards do not require the use of hydrogen fluoride (HF) as in EPA Method 29 and, therefore, they cannot be used for the preparation, digestion, and analysis of Method 29 samples. Additionally, Method 29 requires the use of a glass fiber filter, whereas these three ASTM standards require cellulose filters and other probable non-glass fiber media, which cannot be considered equivalent to EPA Method 29.

ASTM E1979-98 (1998), Standard Practice for Ultrasonic Extraction of Paint, Dust, Soil, and Air Samples for Subsequent Determination of Lead

These ASTM standards do not require the use of glass fiber filters as in EPA Method 12 and require the use of significantly different digestion procedures that appear to be milder than the EPA Method 12 digestion procedure. For these reasons, these ASTM standards cannot be considered equivalent to EPA Method 12. Also, the subject ASTM standards do not require the use of hydrogen fluoride (HF) as in EPA Method 29 and, therefore, they cannot be used for the preparation, digestion, and analysis of Method 29 samples. Additionally, Method 29 requires the use of a glass fiber filter, whereas these three ASTM standards require cellulose filters and other probable non-glass fiber media, which cannot be considered equivalent to EPA Method 29.

Government Standard: EPA Method 15 - Hydrogen Sulfide/Carbon Disulfide/Carbon Sulfide [Incorporated: 1999]

Voluntary Standard

ASME C00031 or PTC 19-10-1981 - Part 10 Flue and Exhaust Gas Analyses

Rationale

The standard is too broad to be useful in regulatory sense. Covers Methods 3, 6, 7, and 15 with variants.

ASTM D4323-84 (1997) - Standard Test Method for Hydrogen Sulfide in the Atmosphere by Rate of Change of Reflectance

ASTM D4323 only applies to concentrations of H₂S from 1 ppb to 3 ppm without dilution. Many QC items are missing, such as calibration drift and sample line losses. The calibration curve is determined with only one point.

Government Standard: EPA Method 1650 - Organic Halides, Absorbable (AOX) [Incorporated: 1998]

Voluntary Standard

ISO, DIN, SCAN, and Standard Methods (SM 5320)

Rationale

EPA decided to use EPA Method 1650. This Method was developed by drawing on various procedures contained in the methods of voluntary consensus standards bodies and other standards developers, such as ISO, DIN, SCAN, and Standard Methods (SM 5320). However, none of these more narrowly focused voluntary consensus standards contained the standardized quality control and quality control compliance criteria that EPA requires for data verification and validation in its water programs. Therefore, EPA found none of these VCS standing alone to meet EPA's needs.

Government Standard: EPA Method 17 - Particle Matter (PM) In Stack Filtration [Incorporated: 1999]

Voluntary Standard

ASME C00049

Rationale

EPA looked at this standard for both Pulp and Paper Hazardous Air Pollutant rules and for the Small Municipal Waste Combustion rule. Contains sampling options beyond which would be considered acceptable for Method 5.

ASTM D3685/3685M-95 - Standard Test method for Sampling and Determination of Particle Matter in Stack Gases

EPA looked at this standard for both Pulp and Paper Hazardous Air Pollutant rules and for the Small Municipal Waste Combustion rule. Contains sampling options beyond which would be considered acceptable for Method 5.

Government Standard: EPA Method 18 - VOC/GC [Incorporated: 1999]

Voluntary Standard

ASTM D6060-96 (in review 2000) - Practice for Sampling of Process Vents with a Portable Gas Chromatography

Rationale

This standard lacks key quality control and assurance that is required for EPA Method 18. For example: lacks acceptance criteria for calibration, details on using other collection media (e.g. solid sorbents), and reporting/ documentation requirements.

Government Standard: EPA Method 180.1 - Turbidity Nephelometric [Incorporated: 1999]

Voluntary Standard

ISO 7027 - Water Quality Determination of Turbidity

Rationale

EPA has no data upon which to evaluate whether the separate 90 degrees scattered or transmitted light measurement evaluations according to the ISO 7027 method would produce results that are equivalent to results produced by the other methods.

Government Standard: EPA Method 2 – Velocity and S-type Pitot [Incorporated: 1999]

Voluntary Standard

ASTM 3796-90 (1998), Standard Practice for Calibration of Type S Pitot Tubes

Rationale

They are too general, too broad, or not sufficiently detailed to assure compliance with EPA regulatory requirements.

ASTM D3154-00, Standard Method for Average Velocity in a Duct (Pitot Tube Method)

1. The standard appears to lack in quality control and quality assurance requirements. It does not include the following: (1) Proof that openings of standard pitot tube have not plugged during the test; (2) if differential pressure gauges other than inclined manometers (e.g., magnehelic gauges) are used, their calibration must be checked after each test series; and (3) the frequency and validity range for calibration of the temperature sensors. 2. They are too general, too broad, or not sufficiently detailed to assure compliance with EPA regulatory requirements.

ASTM D3154-91 (1995), Standard Method for Average Velocity in a Duct (Pitot Tube Method)

It is too general, too broad, or not sufficiently detailed to assure compliance with EPA regulatory requirements.

ASTM D3464-96 (2001), Standard Test Method Average Velocity in a Duct Using a Thermal Anemometer

Applicability specifications are not clearly defined, e.g., range of gas composition, temperature limits. Also, the lack of supporting quality assurance data for the calibration procedures and specifications, and certain variability issues that are not adequately addressed by the standard limit EPA's ability to make a definitive comparison of the method in these areas.

ISO 10780:1994, Stationary Source Emissions-- Measurement of Velocity and Volume Flowrate of Gas Streams in Ducts

The standard recommends the use of an L-shaped pitot, which historically has not been recommended by EPA. The EPA specifies the S-type design, which has large openings that are less likely to plug up with dust.

Government Standard: EPA Method 21 - Volatile Organic Compound (VOC) Leaks [Incorporated: 2001]

Voluntary Standard

ASTM E1211-97 - Standard Practice for Leak Detection and Location Using Surface-Mounted Acoustic Emission Sensors

Rationale

This standard will detect leaks but not classify the leak as VOC, as in EPA Method 21. In addition, in order to detect the VOC concentration of a known VOC leak, the acoustic signal would need to be calibrated against a primary instrument. Background noise interference in some source situations could also make this standard difficult to use effectively.

Government Standard: EPA Method 23 – Dioxin and Furan (PCDD and PCDF) [Incorporated: 1999]

Voluntary Standard

European Committee for Standardization (CEN) EN 1948-3 (1997), Determination of the Mass Concentration of PCDD'S/PCDF'S--Part 3: Identification and Quantification

Rationale

It is too general, too broad, or not sufficiently detailed to assure compliance with EPA regulatory requirements.

Government Standard: EPA Method 24 – Surface Coatings, Volatile Matter Content [Incorporated: 1998]

Voluntary Standard

ISO 11890-1 (2000) part 1, Paints and Varnishes-- Determination of Volatile Organic Compound

Rationale

Measured nonvolatile matter content can vary with experimental factors such as temperature, length of heating period, size of

(VOC) Content-Difference Method

weighing dish, and size of sample. The standard ISO 11890-1 allows for different dish weights and sample sizes than the one size (58 millimeters in diameter and sample size of 0.5 gram) of EPA Method 24. The standard ISO 11890-1 also allows for different oven temperatures and heating times depending on the type of coating, whereas EPA Method 24 requires 60 minutes heating at 110 degrees Celsius at all times. Because the EPA Method 24 test conditions and procedures define volatile matter, ISO 11890-1 is unacceptable as an alternative because of its different test conditions.

ISO 11890-2 (2000) Part 2, Paints and Varnishes--
-Determination of Volatile Organic Compound
(VOC) Content-Gas Chromatographic Method

ISO 11890-2 only measures the VOC added to the coating and would not measure any VOC generated from the curing of the coating. The EPA Method 24 does measure cure VOC, which can be significant in some cases, and, therefore, ISO 11890-2 is not an acceptable alternative to this EPA method.

Government Standard: EPA Method 25 – Gaseous Nonmethane Organic Emissions [Incorporated: 2001]

Voluntary Standard

EN 12619:1999 Stationary Source Emissions--
Determination of the Mass Concentration of Total
Gaseous Organic Carbon at Low Concentrations
in Flue Gases--Continuous Flame Ionization
Detector Method

Rationale

The standards do not apply to solvent process vapors in concentrations greater than 40 ppm (EN 12619) and 10 ppm carbon (ISO 14965). Methods whose upper limits are this low are too limited to be useful in measuring source emissions, which are expected to be much higher.

ISO 14965:2000(E) Air Quality--Determination of
Total Nonmethane Organic Compounds--
Cryogenic Preconcentration and Direct Flame
Ionization Method

The standards do not apply to solvent process vapors in concentrations greater than 40 ppm (EN 12619) and 10 ppm carbon (ISO 14965). Methods whose upper limits are this low are too limited to be useful in measuring source emissions, which are expected to be much higher.

Government Standard: EPA Method 25A – Gaseous Organic Concentration, Flame Ionization [Incorporated: 2001]

Voluntary Standard

EN 12619:1999 Stationary Source Emissions--
Determination of the Mass Concentration of Total
Gaseous Organic Carbon at Low Concentrations
in Flue Gases--Continuous Flame Ionization
Detector Method

Rationale

The standards do not apply to solvent process vapors in concentrations greater than 40 ppm (EN 12619) and 10 ppm carbon (ISO 14965). Methods whose upper limits are this low are too limited to be useful in measuring source emissions, which are expected to be much higher.

ISO 14965:2000(E) Air Quality--Determination of
Total Nonmethane Organic Compounds--
Cryogenic Preconcentration and Direct Flame
Ionization Method

The standards do not apply to solvent process vapors in concentrations greater than 40 ppm (EN 12619) and 10 ppm carbon (ISO 14965). Methods whose upper limits are this low are too limited to be useful in measuring source emissions, which are expected to be much higher.

Government Standard: EPA Method 26 – Hydrogen Chloride, Halides, Halogens Emissions [Incorporated: 1999]

Voluntary Standard

EN 1911-1,2,3 (1998), Stationary Source
Emissions-- Manual Method of Determination of
HCl--Part 1: Sampling of Gases Ratified European
Text--Part 2: Gaseous Compounds Absorption
Ratified European Text-- Part 3: Adsorption

Rationale

Part 3 of this standard cannot be considered equivalent to EPA Method 26 or 26A because the sample absorbing solution (water) would be expected to capture both HCl and Cl₂ gas, if present, without the ability to distinguish between the two. The EPA Methods 26 and 26A use an acidified absorbing solution to first

separate HCl and Cl₂ gas so that they can be selectively absorbed, analyzed, and reported separately. In addition, in EN 1911 the absorption efficiency for Cl₂ gas would be expected to vary as the pH of the water changed during sampling.

Government Standard: EPA Method 26A – Hydrogen Halide and Halogen, Isokinetic [Incorporated: 1999]

Voluntary Standard

EN 1911-1,2,3 (1998), Stationary Source Emissions-- Manual Method of Determination of HCl--Part 1: Sampling of Gases Ratified European Text--Part 2: Gaseous Compounds Absorption Ratified European Text-- Part 3: Adsorption Solutions Analysis and Calculation

Rationale

Part 3 of this standard cannot be considered equivalent to EPA Method 26 or 26A because the sample absorbing solution (water) would be expected to capture both HCl and Cl₂ gas, if present, without the ability to distinguish between the two. The EPA Methods 26 and 26A use an acidified absorbing solution to first separate HCl and Cl₂ gas so that they can be selectively absorbed, analyzed, and reported separately. In addition, in EN 1911 the absorption efficiency for Cl₂ gas would be expected to vary as the pH of the water changed during sampling.

Government Standard: EPA Method 28 (Section 10.1) – Wood Heaters, Certificate and Auditing [Incorporated: 2003]

Voluntary Standard

ASME Power Test Codes, Supplement on Instruments and Apparatus, part 5, Measurement of Quantity of Materials, Chapter 1, Weighing Scales

Rationale

It does not specify the number of initial calibration weights to be used nor a specific pretest weight procedure.

ASTM E319-85 (Re-approved 1997), Standard Practice for the Evaluation of Single-Pan Mechanical Balances

This standard is not a complete weighing procedure because it does not include a pretest procedure.

Government Standard: EPA Method 29 – Metals Emissions from Stationary Sources [Incorporated: 2001]

Voluntary Standard

ASTM D4358-94 (1999), Standard Test Method for Lead and Chromium in Air Particulate Filter Samples of Lead Chromate Type Pigment Dusts by Atomic Absorption Spectroscopy

Rationale

These ASTM standards do not require the use of glass fiber filters as in EPA Method 12 and require the use of significantly different digestion procedures that appear to be milder than the EPA Method 12 digestion procedure. For these reasons, these ASTM standards cannot be considered equivalent to EPA Method 12. Also, the subject ASTM standards do not require the use of hydrogen fluoride (HF) as in EPA Method 29 and, therefore, they cannot be used for the preparation, digestion, and analysis of Method 29 samples. Additionally, Method 29 requires the use of a glass fiber filter, whereas these three ASTM standards require cellulose filters and other probable non-glass fiber media, which cannot be considered equivalent to EPA Method 29.

ASTM E1741-95 (1995), Standard Practice for Preparation of Airborne Particulate Lead Samples Collected During Abatement and Construction Activities for Subsequent Analysis by Atomic Spectrometry

These ASTM standards do not require the use of glass fiber filters as in EPA Method 12 and require the use of significantly different digestion procedures that appear to be milder than the EPA Method 12 digestion procedure. For these reasons, these ASTM standards cannot be considered equivalent to EPA Method 12. Also, the subject ASTM standards do not require the use of hydrogen fluoride (HF) as in EPA Method 29 and, therefore, they cannot be used for the preparation, digestion, and analysis of Method 29 samples. Additionally, Method 29 requires the use of a glass fiber filter,

whereas these three ASTM standards require cellulose filters and other probable non-glass fiber media, which cannot be considered equivalent to EPA Method 29.

ASTM E1979-98 (1998), Standard Practice for Ultrasonic Extraction of Paint, Dust, Soil, and Air Samples for Subsequent Determination of Lead

These ASTM standards do not require the use of glass fiber filters as in EPA Method 12 and require the use of significantly different digestion procedures that appear to be milder than the EPA Method 12 digestion procedure. For these reasons, these ASTM standards cannot be considered equivalent to EPA Method 12. Also, the subject ASTM standards do not require the use of hydrogen fluoride (HF) as in EPA Method 29 and, therefore, they cannot be used for the preparation, digestion, and analysis of Method 29 samples. Additionally, Method 29 requires the use of a glass fiber filter, whereas these three ASTM standards require cellulose filters and other probable non-glass fiber media, which cannot be considered equivalent to EPA Method 29.

CAN/CSA Z223.26-M1987, Measurement of Total Mercury in Air Cold Vapour Atomic Absorption Spectrophotometric Method

It lacks sufficient quality assurance and quality control requirements necessary for EPA compliance assurance requirements.

Government Standard: EPA Method 2C – Velocity and Flow Rate, Standard Pitot [Incorporated: 1999]

Voluntary Standard

ASTM D3154-00, Standard Method for Average Velocity in a Duct (Pitot Tube Method)

Rationale

1. The standard appears to lack in quality control and quality assurance requirements. It does not include the following: (1) Proof that openings of standard pitot tube have not plugged during the test; (2) if differential pressure gauges other than inclined manometers (e.g., magnehelic gauges) are used, their calibration must be checked after each test series; and (3) the frequency and validity range for calibration of the temperature sensors. 2. They are too general, too broad, or not sufficiently detailed to assure compliance with EPA regulatory requirements.

Government Standard: EPA Method 3 – Molecular Weight Carbon Dioxide, Oxygen [Incorporated: 1999]

Voluntary Standard

ASME C00031 or PTC 19-10-1981--part 10, "Flue and Exhaust Gas Analyses"

Rationale

It is too general, too broad, or not sufficiently detailed to assure compliance with EPA regulatory requirements.

ASTM D3154-00, Standard Method for Average Velocity in a Duct (Pitot Tube Method)

1. The standard appears to lack in quality control and quality assurance requirements. It does not include the following: (1) Proof that openings of standard pitot tube have not plugged during the test; (2) if differential pressure gauges other than inclined manometers (e.g., magnehelic gauges) are used, their calibration must be checked after each test series; and (3) the frequency and validity range for calibration of the temperature sensors. 2. They are too general, too broad, or not sufficiently detailed to assure compliance with EPA regulatory requirements.

Government Standard: EPA Method 306 - Chromium Emissions, Electroplating and Anodizing [Incorporated: 2002]

Voluntary Standard

ASTM D4358-94 (1999) - Standard Test Method for Lead and Chromium in Air Particulate Filter Samples of Lead Chromate Type Pigment Dusts by Atomic Absorption Spectroscopy

Rationale

This MACT standard (Petroleum Refineries) only cites Method 29. Therefore, the following EPA comment is only applicable for Method 29 not Method 12 and 306: Method 29 requires the use of hydrofluoric acid (HF) in its process of digestion of the sample. ASTM D4358-94 (1999) does not require the use of HF; therefore, it cannot be used in the preparation, digestion, and analysis of Method 29 samples. Additionally, Method 29 requires the use of a glass fiber filter, whereas the subject ASTM standard requires cellulose filters and other probable non-glass fiber media, and this further negates their use as Method 29 equivalent methods. (Same comment as provided for ASTM E1741 and ASTM E1979).

Government Standard: EPA Method 306a - Chromium Emissions, Electroplating -- Mason Jar [Incorporated: 2002]

Voluntary Standard

ASTM D4358-94 (1999) - Standard Test Method for Lead and Chromium in Air Particulate Filter Samples of Lead Chromate Type Pigment Dusts by Atomic Absorption Spectroscopy

Rationale

This MACT standard (Petroleum Refineries) only cites Method 29. Therefore, the following EPA comment is only applicable for Method 29 not Method 12 and 306: Method 29 requires the use of hydrofluoric acid (HF) in its process of digestion of the sample. ASTM D4358-94 (1999) does not require the use of HF; therefore, it cannot be used in the preparation, digestion, and analysis of Method 29 samples. Additionally, Method 29 requires the use of a glass fiber filter, whereas the subject ASTM standard requires cellulose filters and other probable non-glass fiber media, and this further negates their use as Method 29 equivalent methods. (Same comment as provided for ASTM E1741 and ASTM E1979).

Government Standard: EPA Method 320 – Vapor Phase Organic and Inorganic Emissions, FTIR [Incorporated: 1999]

Voluntary Standard

ASTM D6348-98, Determination of Gaseous Compounds by Extractive Direct Interface Fourier Transform (FTIR) Spectroscopy

Rationale

Suggested revisions to ASTM D6348-98 were sent to ASTM by the EPA that, would allow the EPA to accept ASTM D6348-98 as an acceptable alternative. The ASTM Subcommittee D22-03 is currently undertaking a revision of ASTM D6348- 98. Because of this, we are not citing this standard as an acceptable alternative for EPA Method 320 in the final rule today. However, upon successful ASTM balloting and demonstration of technical equivalency with the EPA FTIR methods, the revised ASTM standard could be incorporated by reference for EPA regulatory applicability. In the interim, facilities have the option to request ASTM D6348-98 as an alternative test method under 40 CFR 63.7(f) and 63.8(f) on a case-by-case basis.

Government Standard: EPA Method 3A – Carbon Dioxide and Oxygen Concentrations, IAP [Incorporated: 1999]

Voluntary Standard

ASTM D5835-95, Standard Practice for Sampling Stationary Source Emissions for Automated Determination of Gas Concentration

Rationale

1. They lack in detail and quality assurance/quality control requirements. Specifically, these two standards do not include the following: (1) Sensitivity of the method; (2) acceptable levels of analyzer calibration error; (3) acceptable levels of sampling system

bias; (4) zero drift and calibration drift limits, time span, and required testing frequency; (5) a method to test the interference response of the analyzer; (6) procedures to determine the minimum sampling time per run and minimum measurement time; and (7) specifications for data recorders, in terms of resolution (all types) and recording intervals (digital and analog recorders, only). 2. It is too general, too broad, or not sufficiently detailed to assure compliance with EPA regulatory requirements.

CAN/CSA Z223.2-M86(1986), Method for the Continuous Measurement of Oxygen, Carbon Dioxide, Carbon Monoxide, Sulphur Dioxide, and Oxides of Nitrogen in Enclosed Combustion Flue Gas Stream

1. It does not include quantitative specifications for measurement system performance, most notably the calibration procedures and instrument performance characteristics. The instrument performance characteristics that are provided are nonmandatory and also do not provide the same level of quality assurance as the EPA methods. For example, the zero and span/calibration drift is only checked weekly, whereas the EPA methods requires drift checks after each run. 2. Is too general, too broad, or not sufficiently detailed to assure compliance with EPA regulatory requirements.

ISO 10396:1993, Stationary Source Emissions: Sampling for the Automated Determination of Gas Concentrations

1. They lack in detail and quality assurance/quality control requirements. Specifically, these two standards do not include the following: (1) Sensitivity of the method; (2) acceptable levels of analyzer calibration error; (3) acceptable levels of sampling system bias; (4) zero drift and calibration drift limits, time span, and required testing frequency; (5) a method to test the interference response of the analyzer; (6) procedures to determine the minimum sampling time per run and minimum measurement time; and (7) specifications for data recorders, in terms of resolution (all types) and recording intervals (digital and analog recorders, only). 2. Is too general, too broad, or not sufficiently detailed to assure compliance with EPA regulatory requirements.

ISO 12039:2001, Stationary Source Emissions--Determination of Carbon Monoxide, Carbon Dioxide, and Oxygen--Automated Methods

This ISO standard is similar to EPA Method 3A, but is missing some key features. In terms of sampling, the hardware required by ISO 12039:2001 does not include a 3-way calibration valve assembly or equivalent to block the sample gas flow while calibration gases are introduced. In its calibration procedures, ISO 12039:2001 only specifies a two-point calibration while EPA Method 3A specifies a three-point calibration. Also, ISO 12039:2001 does not specify performance criteria for calibration error, calibration drift, or sampling system bias tests as in the EPA method, although checks of these quality control features are required by the ISO standard.

Government Standard: EPA Method 3B – Oxygen, Carbon Dioxide, Carbon Monoxide, Emission Rate Correction Factor [Incorporated: 1999]

Voluntary Standard

ASTM D3154-00, Standard Method for Average Velocity in a Duct (Pitot Tube Method)

Rationale

1. The standard appears to lack in quality control and quality assurance requirements. It does not include the following: (1) Proof that openings of standard pitot tube have not plugged during the test; (2) if differential pressure gauges other than inclined manometers (e.g., magnehelic gauges) are used, their calibration must be checked after each test series; and (3) the frequency and validity range for calibration of the temperature sensors. 2. They are too general, too broad, or not sufficiently detailed to assure compliance with EPA regulatory requirements.

ASTM D3154-91 (1995), Standard Method for Average Velocity in a Duct (Pitot Tube Method)

It is too general, too broad, or not sufficiently detailed to assure compliance with EPA regulatory requirements.

Government Standard: EPA Method 4 – Moisture Content in Stack Gases [Incorporated: 1999]

Voluntary Standard

ASTM D3154-00, Standard Method for Average Velocity in a Duct (Pitot Tube Method)

Rationale

1. The standard appears to lack in quality control and quality assurance requirements. It does not include the following: (1) Proof that openings of standard pitot tube have not plugged during the test; (2) if differential pressure gauges other than inclined manometers (e.g., magnehelic gauges) are used, their calibration must be checked after each test series; and (3) the frequency and validity range for calibration of the temperature sensors. 2. They are too general, too broad, or not sufficiently detailed to assure compliance with EPA regulatory requirements.

ASTM D3154-91 (1995), Standard Method for Average Velocity in a Duct (Pitot Tube Method)

It is too general, too broad, or not sufficiently detailed to assure compliance with EPA regulatory requirements.

ASTM E337-84 (1996), Standard Test Method for Measuring Humidity with a Psychrometer (the Measurement of Wet- and Dry-Bulb Temperatures)

They are too general, too broad, or not sufficiently detailed to assure compliance with EPA regulatory requirements.

Government Standard: EPA Method 5 – Particulate Matter, Stationary Sources [Incorporated: 1999]

Voluntary Standard

ASME PTC-38-80 R85 or C00049, Determination of the Concentration of Particulate Matter in Gas Streams

Rationale

It lacks sufficient quality assurance and quality control requirements necessary for EPA compliance assurance requirements.

ASTM D3685/D3685M-98, Test Methods for Sampling and Determination of Particulate Matter in Stack Gases

It lacks sufficient quality assurance and quality control requirements necessary for EPA compliance assurance requirements.

ISO 9096:1992, Determination of Concentration and Mass Flow Rate of Particulate Matter in Gas Carrying Ducts-- Manual Gravimetric Method

It lacks sufficient quality assurance and quality control requirements necessary for EPA compliance assurance requirements.

Government Standard: EPA Method 515.1 - Chlorinated Acids in Water by CC/ECD [Incorporated: 1998 and 2003]

Voluntary Standard

Standard Methods 6640B

Rationale

Standard Methods 6640B for acid herbicides was tentatively deemed impractical for EPA's needs because its sample preparation and quality control procedures were not similar enough to EPA Method 515.1 to ensure that there would not be underreporting of acid herbicide contamination. EPA plans to offer to work with the Standard Methods committee to resolve this issue prior to the next publication.

Government Standard: EPA Method 515.4 – Chlorinated Acids in DW by LL Fast CG/ECD [Incorporated: 2003]

Voluntary Standard

ASTM D5317-98 -- Standard Test Method For Determination of Chlorinated Organic Acid Compounds in Water by Gas Chromatography With an Electron Capture Detector

Rationale

ASTM D5317-98 specifies acceptance windows for the initial demonstration of proficiency for laboratory fortified blank samples that are as small as 0 percent to as large as 223 percent recovery for picloram, with tighter criteria for other regulated contaminants.

Therefore, this method permits unacceptably large control limits, which include 0 percent recovery.

Standard Method 6640 B for the chlorinated acids

The use of this voluntary consensus standard would have been impractical due to significant shortcomings in the sample preparation and quality control sections of the method instructions. Section 1b of Method SM 6640 B states that the alkaline wash detailed in section 4b2 is optional. The hydrolysis that occurs during this step is essential to the analysis of the esters of many of the analytes. Therefore, this step is necessary and cannot be optional. In addition, the method specifies that the quality control limits for laboratory-fortified blanks are to be based upon plus or minus three times the standard deviation of the mean recovery of the analytes, as determined in each laboratory. Therefore, this method permits unacceptably large control limits, which may include 0 percent recovery.

Government Standard: EPA Method 531.2 – N-Methylcarbamoylozimes/ates, Aqueous In/HPLC [Incorporated: 2003]

Voluntary Standard

Standard Method 6610, 20th Edition

Rationale

Standard Method 6610, 20th Edition has recently been approved for compliance monitoring. Standard Method 6610, 20th Supplemental Edition permits the use of a strong acid, hydrochloric acid (HCL), as a preservative. The preservatives in all of the other approved EPA and Standard Methods procedures for these analytes are weak acids that adjust the pH to a specific value based upon the pKa of the preservative. The use of HCL would require accurate determinations of the pH of the sample in the field and could be subject to considerable error and possible changes in pH upon storage. Although not specifically observed for oxamyl or carbofuran during the development of similar methods, structurally similar pesticides have been shown to degrade over time when kept at pH 3. Therefore, approval of this method is impractical because it specifies the use of a strong acid (HCL) when positive control of the pH is critical.

Standard Method 6610, 20th Supplemental Edition

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Government Standard: EPA Method 5i - Low Level Particulate Matter, Stationary Sources [Incorporated: 2001]

Voluntary Standard

ASTM D6331-98

Rationale

This standard does not have paired trains as specified in method 5 and does not include some quality control procedures specified in

the EPA method and which are appropriate to use in this rule.

Government Standard: EPA Method 6 - Sulphur Dioxide Emissions [Incorporated: 1999]

Voluntary Standard

ASME C00031 or PTC 19-10-1981 - Part 10 Flue and Exhaust Gas Analyses

Rationale

They are too broad to be useful in regulatory sense. Covers Methods 3, 6, 7, and 15 with variants.

ISO 11632:1998 - Stationary Source Emissions - Determination of the Mass Concentration of Sulfur Dioxide - Ion Chromatography

ISO 7934:1998 - Stationary Source Emissions - Determination of the Mass Concentration of Sulfur Dioxide - Hydrogen Peroxide/Barium Perchlorate/Thorin Method

This standard is only applicable to sources with 30 mg/m³ SO₂ or more. In addition, this method does not separate SO₃ from SO₂ as does EPA Method 6; therefore, this method is not valid if more than a negligible amount of SO₃ is present. Also, does not address ammonia interferences.

Government Standard: EPA Method 6c - Sulphur Dioxide Emissions Stationary by IAP [Incorporated: 1999]

Voluntary Standard

ASTM D5835-95 - Standard Practice for Sampling Stationary Source Emissions for Automated Determination of Gas Concentration

Rationale

Similar to Methods 3a, 6c, 7e, 10, ALT 004, CTM 022, the standard lacks in detail and quality assurance and quality control requirements; very similar to ISO 10396.

CAN/CSA Z223.2-M86 - (1986) Method for the Continuous Measurement of Oxygen, Carbon Dioxide, Carbon Monoxide, Sulphur Dioxide, and Oxides of Nitrogen in Enclosed Combustion Flue Gas Streams

It is too general. This standard lacks in detail and quality assurance/quality control requirements. Appendices with valid quality control information are not a required part of this method.

ISO 10396:1993 - Stationary Source Emissions: Sampling for the Automated Determination of Gas Concentrations

It duplicates Method 3a, 6c, 7e, 10, ALT 004, CTM 022 and lacks in detail and quality assurance plus quality control requirements. Similar to ASTM D5835.

Government Standard: EPA Method 7 - Nitrogen Oxide Emissions Stationary Sources [Incorporated: 1999]

Voluntary Standard

ASME C00031 or PTC 19-10-1981 - Part 10 Flue and Exhaust Gas Analyses

Rationale

It is too broad to be useful in regulatory sense. Covers Methods 3, 6, 7, and 15 with variants.

Government Standard: EPA Method 7e - Nitrogen Oxide, Instrumental [Incorporated: 1999]

Voluntary Standard

ASTM D5835-95 - Standard Practice for Sampling Stationary Source Emissions for Automated Determination of Gas Concentration

Rationale

Similar to Methods 3a, 6c, 7e, 10, ALT 004, CTM 022, It lacks in detail and quality assurance and quality control requirements; very similar to ISO 10396.

CAN/CSA Z223.2-M86 - (1986) Method for the Continuous Measurement of Oxygen, Carbon Dioxide, Carbon Monoxide, Sulphur Dioxide, and Oxides of Nitrogen in Enclosed Combustion Flue Gas Streams

It is too general. This standard lacks in detail and quality assurance/quality control requirements. Appendices with valid quality control information are not a required part of this method.

ISO 10396:1993 - Stationary Source Emissions: Sampling for the Automated Determination of Gas Concentrations

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Government Standard: EPA Method ALT 004 [Incorporated: 2002]

Voluntary Standard

ASTM D5835-95 - Standard Practice for Sampling Stationary Source Emissions for Automated Determination of Gas Concentration

Rationale

Similar to Methods 3a, 6c, 7e, 10, ALT 004, CTM 022, it lacks in detail and quality assurance and quality control requirements; very similar to ISO 10396.

ISO 10396:1993 - Stationary Source Emissions: Sampling for the Automated Determination of Gas Concentrations

It duplicates Method 3a, 6c, 7e, 10, ALT 004, CTM 022 and lacks in detail and quality assurance plus quality control requirements; similar to ASTM D5835.

Government Standard: EPA Method CTM 022 [Incorporated: 2002]

Voluntary Standard

ASTM D5835-95 - Standard Practice for Sampling Stationary Source Emissions for Automated Determination of Gas Concentration

Rationale

Similar to Methods 3a, 6c, 7e, 10, ALT 004, CTM 022, it lacks in detail and quality assurance and quality control requirements; very similar to ISO 10396.

ISO 10396:1993 - Stationary Source Emissions: Sampling for the Automated Determination of Gas Concentrations

It duplicates Method 3a, 6c, 7e, 10, ALT 004, CTM 022 and lacks in detail and quality assurance plus quality control requirements; similar to ASTM D5835.

Government Standard: EPA Method GG – (Title not found in index) [Incorporated: 2003]

Voluntary Standard

ASTM D3031-81 – Method of Test for Total Sulfur in Natural Gas (Hydrogenation), Withdrawn

Rationale

This method has been deleted from the final rule because it was discontinued by the ASTM in 1990 with no replacement. If the total sulfur content of the fuel being fired in the turbine is less than 0.4 weight percent, we are adding a provision that the following methods may be used to measure the sulfur content of the fuel: ASTM D4084-82 or 94, D5504-01, D6228-98, or the Gas Processors Association Method 2377-86. This provision is consistent with the provision in 40 CFR 60.13(j)(1) allowing alternatives to reference method tests to determine relative accuracy of CEMS for sources with emission rates demonstrated to be less than 50 percent of the applicable standard.

Government Standard: EPA Performance Specification 1 [Incorporated 2001]

Voluntary Standard

ASTM D6216-98 –Standard Procedure for Opacity Monitor Manufacturers to Certify Conformance with Design and Performance Specifications

Rationale

EPA incorporates ASTM D6216 (manufacturers certification) by reference into EPA Performance Specification 1, Sections 5 and 6 in another rulemaking. ASTM D6216 does not address all the requirements specified in PS-1.

Government Standard: EPA Performance Specification 2 (sulfur dioxide portion only) [Incorporated: 2001] (nitrogen oxide portion only) [Incorporated: 2001]

Voluntary Standard

ISO 7935:1992, Stationary Source Emissions--Determination of the Mass Concentration of Sulfur Dioxide--Performance Characteristics of

Rationale

It is too general, too broad, or not sufficiently detailed to assure compliance with EPA regulatory requirements.

Automated Measuring Methods"

Voluntary Standard

ISO 10849:1996, Determination of the Mass Concentration of Nitrogen Oxides--Performance

Rationale

It is too general, too broad, or not sufficiently detailed to assure compliance with EPA regulatory requirements.

Government Standard: EPA Performance Specifications 11 - Particulate Matter Continuous Monitoring System [Incorporated: 1999]

Voluntary Standard

ISO 10155:1995 - Stationary source emissions. Automated monitoring of mass concentration of particles - Performance characteristics, test methods and specifications.

Rationale

This international standard is only applicable on a site specific basis by direct correlation with the manual method ISO 9096 (which does not produce particulate matter measurements like EPA Method 5). This appears to be a PM CEMS performance specification similar to EPA Performance Specification 11, but does not contain detailed RATA procedures. Also, EPA doesn't have a final performance specification to compare this to.

Government Standard: GLI Method 2 [Incorporated: 1999]

Voluntary Standard

ISO 7027 - Water Quality Determination of Turbidity

Rationale

EPA has no data upon which to evaluate whether the separate 90 degrees scattered or transmitted light measurement evaluations according to the ISO 7027 method would produce results that are equivalent to results produced by the other methods.

Government Standard: Standard Method 2130B [Incorporated: 1999]

Voluntary Standard

ISO 7027 - Water Quality Determination of Turbidity

Rationale

EPA has no data upon which to evaluate whether the separate 90 degrees scattered or transmitted light measurement evaluations according to the ISO 7027 method would produce results that are equivalent to results produced by the other methods.

Government Standard: SW846-6010b [Incorporated: 2002]

Voluntary Standard

ASTM C1111-98 (1998) - Standard Test Method for Determining Elements in Waste Streams by Inductively Coupled Plasma-Atomic Emission Spectrometers

Rationale

This standard lacks details for instrument operation QA/QC, such as optimizing plasma operating conditions; upper limit of linear dynamic range; spectral interference correction; and calibration procedures, which include initial and continuous calibration verifications. Also lacks internal standard and method of standard addition options for samples with interferences.

ASTM D6349-99 (1999) - Standard Test Method for Determining Major and Minor Elements in Coal, Coke, and Solid Residues from Combustion of Coal and Coke by Inductively Coupled Plasma-Atomic Emission Spectrometers

This standard lacks details for instrument operation QA/QC, such as optimizing plasma operating conditions, upper limit of linear dynamic range, spectral interference correction, and calibration procedures, that include initial and continuous calibration verifications. Also lacks details for standard preparation, and internal standard and method of standard addition options for samples with interferences.

Agency: Government Printing Office (GPO)

Government Standard: FED-STD 209 [Incorporated: 2000] [Discontinued: 2005]

Voluntary Standard

ISO 14644-1 & ISO 14644-2

Rationale

Military and Federal quality assurance standards used and gradually phased out.

Government Standard: MIL-STD 105 [Incorporated: 2000] [Discontinued: 2005]

Voluntary Standard

ANSI/ASQC Z1.4

Rationale

Military and Federal quality assurance standards used and gradually phased out.

Government Standard: MIL-STD 1189 [Incorporated: 2000] [Discontinued: 2005]

Voluntary Standard

ANSI/AIM X5-2 & ANSI X3.182

Rationale

Military and Federal quality assurance standards used and gradually phased out.

Government Standard: MIL-STD 498 [Incorporated: 2000] [Discontinued: 2005]

Voluntary Standard

IEEE/EIA 12207.0, IEEE/EIA 12207.1, & IEEE/EIA 12207.2

Rationale

Military and Federal quality assurance standards used and gradually phased out.

Agency: General Services Administration (GSA)

Government Standard: FF-L-2740 Locks, Combination [Incorporated: 1999] [Discontinued: 2002]; AA-D-600B and AA-V-2737, Door Vault Security and Modular Vault Systems [Incorporated: 2000] [Discontinued: 2001]

Voluntary Standard

UL 608/UL 768

Rationale

The government standards were justified for protection of National security information.

Government Standard: Federal Specification KKK-A-1822E - Federal Specification for Ambulances [Incorporated: 2000]

Voluntary Standard

ASTM F2020 - Standard Practice for Design, Construction, and Procurement of Emergency Medical Services Ambulances

Rationale

The ASTM Standard Practice for Design, Construction, and Procurement of Emergency Medical Services (EMSS) Ambulances (ASTM F2020) is not practical for use, and therefore GSA uses the Federal Specification for Ambulances (KKK-A-1822E). GSA has determined the ASTM document is not practical for use for the following reasons:

- 1) GSA has determined that ASTM F2020 contains specific practices that are technically and economically impractical to use for the acquisition of commercial based vehicles because the document is financially burdensome and technically ineffective. Specifically at issue is the ASTM Standard Specification for Medical

Oxygen Delivery Systems for EMS Ground Vehicles, F1949-99 which is inclusive to ASTM F2020.

2) GSA has determined that ASTM F2020 is impractical because it is defined as a standard practice which is ambiguous and an ineffective substitution for specifications or requirements for use in GSA contract documents. ASTM F1949-99, a Standard Specification for Medical Oxygen Delivery Systems for EMS Ground Vehicles is included in ASTM F2020. ASTM F1949-99 is defined as a "standard specification".

3) GSA has determined that ASTM F2020 is impractical because ASTM International does not provide interpretations and written guidance to their publications which is inadequate and less useful. ASTM members may only offer personal opinions. ASTM offers no mechanism to support timely resolution of conflicts between contractor and procurement organizations on technical subject matter. GSA provides interpretations, clarifications and engineering determinations when required. This is one of the most important concerns presented by the Ambulance Manufacturers Division (AMD).

4) The AMD has determined through consensus that it is impractical to replace the Federal Specification for Ambulances, KKK-A-1822E with the ASTM Standard Practice, F2020. GSA initiated a survey to collect public responses from a wide range of constituent users of the Federal Ambulance Specification. The National Association of Emergency Medical Technicians (NAEMT), the International Association of Fire Chiefs (IAFC), the National Association of State EMS Directors (NASEMSD) and the National Association of EMS Physicians universally accept and support the continued use of the Federal Specification. The AMD and constituent users have determined that it is impractical to replace the Federal Specification for Ambulances, KKK-A-1822E with the ASTM Standard Practice, F2020 because rule promulgation is burdensome and costly. Staff and administration resources would need to be diverted in each state EMS office to implement the change in statutes, public health codes, rules and regulations.

5) GSA has determined that ASTM F2020 is impractical because it is burdensome to GSA procurement efforts. While the current ASTM document recites many of the requirements from the Federal Specification, a future ASTM document would likely have diverging requirements unacceptable to the Government. This was verified by a member of the ASTM F2020 subcommittee at the September 4, 2003 meeting of the Federal Interagency Committee on Emergency Medical Services.

Government Standard: MIL-G-9954 - Glass Beads for Cleaning and Peening [Incorporated: 2003]

Voluntary Standard

SAE/AMS 2431 - Peening Media, General Requirements

Rationale

This government-unique standard contains specific size & performance required for Air Force critical applications that are not present in the voluntary standards.

Government Standard: Federal Specification A-A-1925 - Shield, Expansion (Nail Anchors) [Incorporated: 2000] [Discontinued: 2004]

Voluntary Standard

Not applicable

Rationale

Upon subsequent review, it was determined that this is not a government-unique standard. Rather, it is described by the Defense Logistics Agency, the originator of the document, as a Commercial Item Description (CID), and it does not replace the applicable test method standard ASTM E488.

Agency: Department of Health and Human Services (HHS)

Government Standard: FDA Guidelines on Aseptic Processing (2004) [Incorporated: 1997]

Voluntary Standard

ISO 13408-1 Aseptic Processing of Health Care Products, Part 1, General Requirements

Rationale

FDA is not using the ISO standard because the applicability of these requirements is limited to only portions of aseptically manufactured biologics and does not include filtration, freeze-drying, sterilization in place, cleaning in place, or barrier-isolator technology. There are also significant issues related to aseptically produced bulk drug substance that are not included in the document.

Government Standard: National Standard Format [Incorporated: 1997] [Discontinued: 2004]

Voluntary Standard

ANSI X12 837

Rationale

The NSF was used widely across the health care payment industry and has become a defacto national standard. However, the Centers for Medicare and Medicaid Services (CMS) directed their contractors to discontinue use of the NSF standard and replace it with ANSI X12 837 by the beginning of FY 2003.

Government Standard: FR Notice dated June 17, 1994 Tentative Final Monograph for Health Care Antiseptic Drug Products; Proposed Rule [Incorporated: 1997]

Voluntary Standard

ASTM Standard E1115 - Test Method for Evaluation of Surgical Hand Scrub Formulations

Rationale

Sensitivity and bias of the ASTM Standard has not been established.

ASTM Standard E1173-93 - Standard Test Method of an Evaluation of Preoperative, Pre-catheterization, or Pre-injection Skin Preparations

Sensitivity and bias of the ASTM Standard has not been established.

ASTM Standard E1174-00 - Standard Test method for the Evaluation of the Effectiveness of Health Care Personnel or Consumer Handwash Formulations

Sensitivity and bias of the ASTM Standard has not been established.

Agency: Department of Housing and Urban Development (HUD)

Government Standard: 24 CFR 200.935 – 24 CFR 200.955 - Administrator qualifications and procedures for HUD building products and certification programs [Incorporated: 2000]

Voluntary Standard

ANSI A119.1 N - Recreation Vehicles

Rationale

HUD Building-Product Standards & Certification Programs. HUD was required by legislation to “establish Federal construction and safety standards for manufactured homes and to authorize manufactured home safety research and development”. HUD uses VC together with program administrators who are qualified to validate manufacturers’ certifications that particular building products or materials meet applicable HUD standards. VCS without conformity assessments would not provide assurances that the products conform to HUD requirements. HUD retained a private consensus body (NFPA) to update and modernize the Manufactured Home Standards. At the conclusion of the development process, NFPA will submit the revised standard to HUD for regulatory adoption.

Government Standard: 24 CFR 3280 - Manufactured Home Construction and Safety Standards [Incorporated: 2000]

Voluntary Standard

NFPA 501, Standard on Manufactured Housing

Rationale

HUD-Unique Manufactured Home Construction & Safety Standards. HUD was required by legislation to “establish Federal Manufactured Housing Construction and Safety Standards that comport with the purposes of the National Manufacturing Housing and Construction Safety Standards Act. As a result of recent changes in the Act, HUD is now required to consider recommendations for revising the standards that are developed by the Manufactured Housing Consensus Committee (MHCC) through its consensus standards development process. While the NFPA 501 standard has served as the basis for a number of the revisions recommended by the MHCC to the Secretary, the MHCC has modified or did not accept other provisions of the NFPA 501 standard because those requirements did not fully conform to all purposes of the Act.

Agency: National Archives and Records Administration (NARA)

Government Standard: NARA data standard [Incorporated: 2000]

Voluntary Standard

Archives, Personal Papers, and Manuscripts (APPM);
General International Standard Archival Description (ISAD(G));
International Standard Archival Authority Record for Corporate Bodies, Persons, and Families (ISAAR(CPF));
Encoded Archival Description (EAD);
Machine Readable Cataloging (MARC)

Rationale

These voluntary standards do not meet the precise needs of the agency.

Agency: Department of Agriculture (USDA)

Government Standard: USDA Forest Service Specification 5100-307; International Specification for Fire Suppressant Foam for Wild land Fires, Aircraft or Ground Application [Incorporated: 2005]

Voluntary Standard

NFPA 1150 - Standard on Fire-Fighting Foam Chemicals for Class A Fuels in Rural, Suburban, and Vegetated Areas.

Rationale

Foam fire suppressants contain foaming and wetting agents. The foaming agents affect the accuracy of an aerial drop, how fast the water drains from the foam and how well the product clings to the fuel surfaces. The wetting agents increase the ability of the drained water to penetrate fuels. Foam fire suppressants are supplied as wet concentrates.

This standard was developed with international cooperation for Class A Foam used in wild land fire suppression situations and equipment. This standard was created by the USDA Forest Service in cooperation with the Department of Interior (DOI), the State of California, Department of Forestry and Fire Protection and the Canadian Interagency Forest Fire Center.

The National Fire Protection Association (NFPA) does have a standard for Class A Foam, (NFPA 1150 - Standard on Fire-Fighting Foam Chemicals for Class A Fuels in Rural, Suburban, and Vegetated Areas). The Forest Service has not chosen to utilize NFPA 1150 as it is designed specifically for application by municipal fire agencies in the wild land-urban interface, utilizing apparatus and situations that they are likely to encounter. The Forest Service's GUS for foam products is specific to use by wild land fire equipment and situations that are unique, e.g. helicopter use of foams, remote storage situations, and varied quality of water sources in the wild land settings. The agency feels this standard more accurately reflects the needs and mission of the federal wild land fire suppression agencies.