

NISTIR 8189

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

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U.S. Department of Commerce
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Kent Rochford, Acting NIST Director and Under Secretary of Commerce for Standards and Technology

Twentieth Annual Report on Federal Agency Voluntary Consensus Standards and Conformity Assessment Activities

Each year the U.S. Department of Commerce (DOC) provides a report to the Office of Management and Budget (OMB) summarizing federal agency use of government unique standards (GUS) in lieu of voluntary consensus standards (VCS) during the previous fiscal year (FY), as required by Section 12(d)(3) of Public Law 104-113, the “National Technology Transfer and Advancement Act of 1995” (NTTAA). The FY 2016 summary, prepared by the National Institute of Standards and Technology (NIST), compiles the reports provided by 25 participating agencies listed in Appendix A. In these reports, agencies document any new use of GUS in lieu of VCS during FY 2016 and provide a rationale for each new use. Agencies briefly describe their activities related to the use of VCS to satisfy the reporting requirements of OMB Circular A-119, “Federal Participation in the Development and Use of Voluntary Consensus Standards and Conformity Assessment Activities.” Individual agency reports may be found at <https://standards.gov/NTTAA/agency/index.cfm?fuseaction=agencyReports.main>.

By implementing the NTTAA and Circular A-119, agencies seek to minimize their reliance on GUS by using VCS whenever possible to achieve the following goals:

- reduce costs and regulatory burden;
- provide incentives and opportunities encouraging long-term growth for U.S. enterprises;
- further their reliance upon private sector expertise.

In January 2016, OMB revised Circular A-119 to include updates of the evolving federal government’s strategy for standards development, promote agency participation in voluntary standards development, specify reporting requirements, and inform agencies of their statutory obligations related to standards setting. The annual agency reporting requirements under the revised Circular A-119 were revised to more closely mirror the statutory requirements of the NTTAA resulting in a more relevant and streamlined report for agencies.

For FY 2016, federal agencies reported using six new GUS in lieu of VCS as noted in Appendix B. These new GUS were implemented by the Department of Labor (2), the Department of State (1), the Environmental Protection Agency (2), and the National Archives and Records Administration (1). As reported in Appendix C, the Department of Transportation (DOT) rescinded three GUS used in lieu of VCS as these GUS were no longer in effect. Two agencies retroactively updated their lists of GUS used in lieu of VCS to add GUS that were not reported or to remove a listing that was not a GUS. DOT listed 8 GUS used in lieu of VCS that were adopted in previous years but had not yet been reported (see Appendix D). The Department of Housing and Urban Development (HUD) removed a previously reported GUS used in lieu of a VCS after their review indicated that the reported item did not fit the definition of a standard. This analysis does not reflect the use of standards by the Department of Defense (DoD) or the National

Aeronautics and Space Administration (NASA) as they must report their use of GUS on a categorical basis via a different reporting mechanism.

Over the past 20 years, the effectiveness of the NTTAA and Circular A-119 in encouraging an enhanced awareness and acceptance of private sector standards by federal agencies is demonstrated by the low numbers of reported new GUS used in lieu of VCS and the repeated review of opportunities to replace existing GUS with VCS. These activities suggest that federal agencies are increasingly likely to consider using standards developed by the private sector to meet their regulatory and procurement needs.

Summary

This report fulfills the annual reporting requirements of both the NTTAA and OMB Circular A-119. The reported low numbers of GUS in lieu of existing VCS reflects the success of the NTTAA and OMB Circular A-119 in encouraging agencies to engage with the private sector standards system to address government needs.

In accordance with its coordination role as defined in the NTTAA and OMB A-119, NIST continues to assist federal agencies and their stakeholders with standards and conformity assessment information, program support, guidance, and policy concerns. NIST hosts <http://standards.gov>, which offers ongoing practical guidance and information needed by agencies to implement the NTTAA successfully as well as report standards activities as required by the NTTAA and OMB Circular A-119.

Appendix A: FY 2016 Federal Agencies Reporting per OMB Circular A-119

Access Board (ACCESS)
Consumer Product Safety Commission (CPSC)
Department of Agriculture (USDA)
Department of Commerce (DOC)
Department of Defense (DoD)*
Department of Education (ED)
Department of Energy (DOE)
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)
Environmental Protection Agency (EPA)
Federal Communications Commission (FCC)
Federal Trade Commission (FTC)
General Services Administration (GSA)
Government Publishing Office (GPO)
National Aeronautics and Space Administration (NASA)*
National Archives and Records Administration (NARA)
National Science Foundation (NSF)
Nuclear Regulatory Commission (NRC)

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

Appendix B: FY 2016 Government Unique Standards Used in Lieu of Voluntary Consensus Standards

Agency: Department of Labor (DOL)

Government Unique Standard (GUS): Occupational Safety and Health Administration (OSHA)'s Respirable Crystalline Silica Standard for General Industry and Maritime [Incorporated: 2016]

Voluntary Consensus Standard (VCS): ASTM's E 1132 – 06, Standard Practice for Health Requirements Relating to Occupational Exposure to Respirable Crystalline Silica

Rationale for using GUS in lieu of VCS: OSHA's standard includes a number of requirements that differ from the specifications in the ASTM standard because the requirements in the OSHA standard better effectuate the purposes of the OSH Act and protect employees from the significant risks posed by exposures to respirable crystalline silica (silica). The major differences include:

The OSHA standard gives employers required to do exposure assessment a choice between complying with a scheduled monitoring approach or a performance-oriented approach, requires employers to establish regulated areas, and requires a written plan to be reviewed annually and made available to employees, their representatives, and OSHA and National Institute for Occupational Safety and Health (NIOSH) upon request.

Differences between the medical surveillance programs include the following: The ASTM standard triggers medical surveillance for employees exposed above the Permissible Exposure Limit (PEL) or other occupational exposure limit (OEL) for 120 or more days a year, while the OSHA standard triggers medical surveillance for employees exposed at or above the action level (half the PEL) for 30 or more days a year. For medical examinations under OSHA's standard, spirometry testing is not optional, X-ray classification of 1/0 triggers referral to a specialist, requires tuberculosis testing for the initial examination of all employees who qualify for medical surveillance, and allows employees to make their own placement decisions. The OSHA standard withholds medical information from the employer because of privacy concerns.

Government Unique Standard (GUS): OSHA's Respirable Crystalline Silica Standard for Construction [Incorporated: 2016]

Voluntary Consensus Standard (VCS): ASTM's E 2625 – 09, Standard Practice for Health Requirements Relating to Occupational Exposure to Respirable Crystalline Silica for Construction and Demolition Activities

Rationale for using GUS in lieu of VCS: OSHA's standard includes a number of requirements that differ from the specifications in the ASTM standard because the requirements in the OSHA standard better effectuate the purposes of the OSH Act and protect employees from the significant risks posed by exposures to respirable crystalline silica (silica). The major differences include:

Both standards contain tables that specify control measures and respiratory protection for several common construction tools and tasks. OSHA's table (Table 1) differs from the ASTM tables in several respects; the OSHA standard divides respirator requirements according to duration of

tasks and includes short-duration tasks. OSHA's standard gives employers required to do exposure assessment a choice between complying with a scheduled monitoring approach or a performance-oriented approach. It requires a written plan to be reviewed annually; made available to employees, their representatives, OSHA and NIOSH upon request; address restricting access and requires a competent person to implement the plan.

Differences between the medical surveillance programs include the following: The ASTM standard triggers medical surveillance for employees exposed above the PEL or other occupational exposure limit for 120 or more days a year, while the OSHA standard triggers medical surveillance for employees who are required to use a respirator under the silica standard for 30 or more days a year. Medical examinations under OSHA's standard are to be conducted within 30 days, spirometry testing is mandatory, an X-ray classification of 1/0 triggers referral to a specialist, tuberculosis testing for the initial examination of all employees who qualify for medical surveillance, allows employees to make their own placement decisions and the OSHA standard withholds medical information from the employer because of privacy concerns.

Hazard communication and training specifications in the ASTM standard differ from requirements in the OSHA standard in the following ways: The ASTM standard requires training of all employees covered by the standard. The OSHA standard is more performance-based in order to allow flexibility for employers to provide training. Some training topics differ.

Recordkeeping specifications in the standards differ in that the ASTM standard specifies that medical and exposure records be retained for 40 years or for duration of employment plus 20 years.

Agency: Department of State (DOS)

Government Unique Standard (GUS): The 2017 Overseas Building Operations (OBO) Design Standards [Incorporated: 2016]

Voluntary Consensus Standard (VCS): 2015 International Building Code

Rationale for using GUS in lieu of VCS: The 2017 OBO Building Code adopts the 2015 International Building Code (IBC) as amended by the 2017 OBO International Codes Supplements (OBO-ICS). The 2017 ICS adds material that is not covered in the 2015 IBC but introduces the material in an industry-standard format so that users are easily able to locate OBO-specific requirements.

Similarly, OBO provides master specification sections in an industry-standard format where no industry master exists, such as for Forced Entry / Ballistic Resistant (FE/BR) windows and doors.

Agency: Environmental Protection Agency (EPA)

Government Unique Standard (GUS): EPA Method 18 [Incorporated: 2016]

Voluntary Consensus Standard (VCS): ASTM D6420-99 (2010) “Test Method for Determination of Gaseous Organic Compounds by Direct Interface Gas Chromatography/Mass Spectrometry”

Rationale for using GUS in lieu of VCS: The use of this voluntary consensus standard would not be practical due to a lack of equivalency, documentation, validation data, and other important technical and policy considerations. The EPA did not receive comments during the notice and comment period that caused the EPA to alter the standards and methods in the final permits.

Government Unique Standard (GUS): EPA Method 9 [Incorporated: 2016]

Voluntary Consensus Standard (VCS): ASTM D7520-09 “Standard Test Method for Determining Opacity of a Plume in the Outdoor Ambient Atmosphere”

Rationale for using GUS in lieu of VCS: The use of this voluntary consensus standard would not be practical due to a lack of equivalency, documentation, validation data, and other important technical and policy considerations. The EPA did not receive comments during the notice and comment period that caused the EPA to alter the standards and methods in the final permits.

Agency: National Archives and Records Administration (NARA)

Government Unique Standard (GUS): Lifecycle Data Requirements Guide, Second Edition (January 18, 2002) (NARA standard) [Incorporated: 2016]

Voluntary Consensus Standard (VCS): RDA Steering Committee: Resource Description and Access--2015 Revision

Rationale for using GUS in lieu of VCS: The voluntary standards of the Resource Description and Access (RDA) do not meet the precise needs of the agency.

Appendix C: FY 2016 Rescinded Government Unique Standards Used in Lieu of Voluntary Consensus Standards

Agency: Department of Transportation (DOT)

Government Unique Standard (GUS): 63 CFR 17976; April 13, 1998 - Product Safety Signs and Labels [Incorporated: 1998] [Rescinded: 2016]

Voluntary Consensus Standard (VCS): ANSI Z535.4 - ANSI Requirements for Color-Coded Header Messages for the Different Levels of Hazard

Rationale for using GUS in lieu of VCS: The National Highway Traffic Safety Administration (NHTSA) explained in the Notice of Proposed Rule Making (NPRM) that the American National Standard Institute (ANSI) has a standard 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 2 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.

As of the time of this reporting (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 judgement in making determinations under the NTTAA and the statutory provisions regarding vehicle safety standards.

Government Unique Standard (GUS): Air Bag Warning Label (1997) [Incorporated: 1997]
[Rescinded: 2016]

Voluntary Consensus Standard (VCS): ANSI ISO

Rationale for using GUS in lieu of VCS: 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 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 Unique Standard (GUS): Federal Motor Vehicle Safety Standard (FMVSS) No. 226, "Ejection Mitigation" (49 CFR 571.226; 49 CFR 585, Subpart K) (2011). [Incorporated: 2010]
[Rescinded: 2016]

Voluntary Consensus Standard (VCS): SAE J2568—Intrusion Resistance of Safety Glazing Systems for Road Vehicles; BSI AU 209—Vehicle Security

Rationale for using GUS in lieu of VCS: NHTSA studied the potential of applying these standards, but decided against adopting them for several reasons. These standards provide glazing intrusion resistance requirements from external impact (outside-in) as opposed to ejection mitigation (inside-out). Additionally, the requirements are not appropriate for vehicles with only side curtain air bags, given that there is a time dependence associated with a curtain's ejection mitigation performance. Once deployed, the pressure in the air bag continuously decreases. The 16 km/h test is done at 6 seconds to assure that the pressure does not decrease too quickly. It does

not seem that the 40 mm gap test could be done after the 6-second impact, in any timeframe which is related to rollover and side impact ejections. Further, there was no shown safety need for applying the suggested standards. We cannot show that ejections that would not be prevented by the primary 100-mm displacement requirement would be prevented by a secondary 40-mm requirement. Also, it seemed that the 40-mm requirement would indirectly require installation of advanced glazing. The costs associated with advanced glazing installations at the side windows covered by the NHTSA standard are substantial in comparison to a system only utilizing rollover curtains. For these reasons, the agency did not accept the standards.

Appendix D: FY 2016 Retroactive Additions of Previously Implemented Government Unique Standards Used in Lieu of Voluntary Consensus Standards

Agency: Department of Transportation (DOT)

Government Unique Standard (GUS): 49 CFR 571.102, Transmission shift position sequence, starter interlock, and transmission braking effect (2005) [Incorporated: 2005; Reported: 2016]

Voluntary Consensus Standard (VCS): SAE J915

Rationale for using GUS in lieu of VCS: This regulation was issued on July 1, 2005. SAE J915, “Automatic Transmissions - Manual Control Sequence,” published on July 1, 1965 and updated on March 9, 2017. NHTSA has not incorporated this standard because its content currently relies on 49 CFR 571.102 and 571.114, and the SAE J915 abstract also states that some portions of the standard are unique and may not represent current common practices within the user community. NHTSA is evaluating industry standards to inform the next steps of any revisions to its regulation.

Government Unique Standard (GUS): 49 CFR 571.114, Theft protection and rollaway prevention (2006) [Incorporated: 2006; Reported: 2016]

Voluntary Consensus Standard (VCS): SAE J2948

Rationale for using GUS in lieu of VCS: NHTSA published this regulation on April 7, 2006. SAE Recommended Practice, SAE J2948 ‘Keyless Ignition Control Design’ was published on January 13, 2011. NHTSA reviewed and referenced SAE J2948 in an NPRM it issued on December 12, 2011, and is considering whether to finalize this regulatory action.

Government Unique Standard (GUS): 49 CFR 571.129 New non-pneumatic tires for passenger cars (1990) [Incorporated: 1990; Reported: 2016]

Voluntary Consensus Standard (VCS): SAE J918c

Rationale for using GUS in lieu of VCS: Standard precedes implementation of reporting under the NTTAA in 1998 – added by DOT for completeness and transparency. This regulation was published on July 20, 1990. Although not incorporated by reference, the performance and test requirements are based upon SAE recommended practice, “Passenger Car Tire Performance,” J918c, last updated on May 1, 1970. NHTSA is evaluating industry standards to inform the next steps of any revisions to its regulations.

Government Unique Standard (GUS): 49 CFR 571.138, Tire pressure monitoring systems (2005) [Incorporated: 2005; Reported: 2016]

Voluntary Consensus Standard (VCS): SAE J2657

Rationale for using GUS in lieu of VCS: NHTSA published this regulation on April 8, 2005. SAE J2657, Tire Pressure Monitoring Systems for Light Duty Highway Vehicles, was published

on December 16, 2004. While SAE J2657 was not incorporated in the final rule, the regulation has many commonalities. However, SAE J2657 does not contain requirements or test procedures for a malfunction indicator, and requires different levels of rigorousness. NHTSA is evaluating industry standards to inform the next steps of any revisions to its regulations.

Government Unique Standard (GUS): 49 CFR 571.302 Flammability of Interior Materials (1971) [Incorporated: 1971; Reported: 2016]

Voluntary Consensus Standard (VCS): ASTM D5132; SAE J369

Rationale for using GUS in lieu of VCS: Standard precedes implementation of reporting under the NTTAA in 1998 – added by DOT for completeness and transparency. This regulation was published on December 2, 1971. Although not incorporated by reference, these standards are technically equivalent to the regulation: ASTM D5132, “Standard Test Method for Horizontal Burning Rate of Polymeric Materials Used in Occupant Compartments of Motor Vehicles,” published in 1994 and SAE J 369, “Flammability of Polymeric Interior Materials - Horizontal Test Method,” published on March 1, 1969. NHTSA initiated a research program in 2016 to evaluate the test procedures of the industry standards to inform the next steps of any revision to this regulation.

Government Unique Standard (GUS): 49 CFR 571.304, Compressed natural gas fuel container integrity (1994) [Incorporated: 1994; Reported: 2016]

Voluntary Consensus Standard (VCS): ANSI/CSA NGV2

Rationale for using GUS in lieu of VCS: Standard precedes implementation of reporting under the NTTAA in 1998 – added by DOT for completeness and transparency. The standard was published on September 26, 1994 and was based on ANSI/CSA NGV2, “Basic requirements for compressed natural gas vehicle fuel containers.” NHTSA started a research program in 2015 to evaluate the performance tests in the revised version of NGV2 and also in the Global Technical Regulation No. 13, “Hydrogen and fuel cell vehicles.” NHTSA will use the research to inform the next steps of any revision to this regulation.

Government Unique Standard (GUS): 49 CFR 571.305, Electric-powered vehicles: electrolyte spillage and electrical shock protection (2000) [Incorporated: 2000; Reported: 2016]

Voluntary Consensus Standard (VCS): SAE J1766

Rationale for using GUS in lieu of VCS: The standard was issued on September 27, 2000, and was based on SAE J1766, “Recommended practice for electric and hybrid electric vehicle battery systems crash integrity testing,” published on February 1, 1996. NHTSA reviewed the 2016 revision of SAE J1766 and other industry standards for electric vehicles in an NPRM it issued on March 10, 2016, and is considering whether to finalize this regulatory action.

Government Unique Standard (GUS): 49 CFR Part 563, Event Data Recorders (2006) [Incorporated: 2006; Reported: 2016]

Voluntary Consensus Standard (VCS): SAE J1698–1; IEEE P1616

Rationale for using GUS in lieu of VCS: This regulation was issued on August 28, 2006. NHTSA did not incorporate either the SAE Vehicle Event Data Interface (J1698–1) Committee or the IEEE Motor Vehicle Event Data Recorder (MVDER) working group (P1616) because both standards were developed and issued during the rulemaking process. NHTSA is evaluating industry standards to inform the next steps of any revisions to its regulations.