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FY 2006 Government Unique Standards used in lieu of Voluntary Consensus Standards

Agency: Access Board (ACCESS)

Government Standard: 36 CFR Part 1194 Electronic and Information Technology Accessibility Standards (December, 2000) [Incorporated: 2006]

Voluntary Standard

ANSI/IEEE Standard for Hearing Aid Compatibility with Wireless Devices

Rationale

A provision in the Section 508 Standards requires that interference to hearing technologies be reduced to the lowest possible level that allows a user of hearing technologies to utilize a telecommunications product. Individuals who are hard of hearing use hearing aids and other assistive listening devices, but they cannot be used if products introduce noise into the listening aids because of electromagnetic interference. The ANSI/IEEE Standard for Hearing Aid Compatibility with Wireless Devices was not completed in time for reference by the agency in its final rule published in FY 2000. However, the agency will consider using the Standard in FY 2007. In the meantime, because the requirement in the agency rule is a performance standard, the agency considers compliance with the VCS to meet the agency Standard.

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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.

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**Agency:** Department of Labor (DOL)

**Government Standard:** 29 CFR 1926.1002 Roll-Over Protective Structures (Incorporated: 2006) [Incorporated: 2006]

**Voluntary Standard**

SAE J1194-1999

**Rationale**

Many consensus standards were relied upon for various provisions in the final rule. The primary VCS that applies directly to ROPS is SAE J1194-1999 which incorporates by reference several other VCSs. If SAE J1194-1999 was adopted into the OSHA provisions, the regulated community would have to consult not only the primary VCS but all of the VCSs that are incorporated into it as well. OSHA believes it is less burdensome for the regulated community to use one OSHA

standard rather than require the purchase and use of several VCSs.

**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 standards. 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

**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

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

and its negotiated rulemaking committee determined that there was no, one 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**

Many consensus standards were relied upon for various provisions in the final rule, but there was no one consensus standard available that covered all of the topics covered by OSHA's final rule.

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**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

**Rationale**

NHTSA explained in the NPRM that the

## Color Coded Header Messages for the Different Levels of Hazard

American National Standard Institute (ANSI) has a standard<sup>4</sup> 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 judgement 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.

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**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: 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: EPA Method 1 - Traverse Points, Stationary Sources [Incorporated: 2001]**

**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)

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

**Rationale**

This ASTM standard, which is stated to be applicable in the range of 0.5-100 ppm CO,

Atmosphere (Continuous Measurement by Non-dispersive Infrared Spectrometry) 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 CO<sub>2</sub> 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 is incorporating 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 is incorporating 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 CO<sub>2</sub> 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: 2000]**

**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 nonglass 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

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

## Spectrometry

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 nonglass 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 nonglass 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

Rationale

ASME C00031 or PTC 19-10-1981 - Part 10 Too broad to be useful in regulatory sense.  
Flue and Exhaust Gas Analyses 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 H<sub>2</sub>S 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: 2001]**

**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.
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**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)

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: 2003]**

**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**

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 (VOC) Content- Difference Method

**Rationale**

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

**Rationale**

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

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 Solutions Analysis and Calculatio

**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 Cl<sub>2</sub> 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 Cl<sub>2</sub> gas so that they can be selectively absorbed, analyzed, and reported separately. In addition, in EN 1911 the absorption efficiency for Cl<sub>2</sub> 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 Calculatio

**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 Cl<sub>2</sub> 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 Cl<sub>2</sub> gas so that they can be selectively absorbed, analyzed, and reported separately. In addition, in EN 1911 the absorption efficiency for Cl<sub>2</sub> 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 (Reapproved 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 nonglass 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 nonglass 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

These ASTM standards do not require the use of glass fiber filters as in EPA Method 12 and require the use of significantly different

## Determination of Lead

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 nonglass 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**

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

**Rationale**

Suggested revisions to ASTM D6348-98 were sent to ASTM by the EPA that, would allow

Interface Fourier Transform (FTIR)  
Spectroscopy

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 a 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. 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) 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) 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]**

<b>Voluntary Standard</b>	<b>Rationale</b>
ASME PTC-38-80 R85 or C00049, Determination of the Concentration of Particulate Matter in Gas Streams	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]**

<b>Voluntary Standard</b>	<b>Rationale</b>
Standard Methods 6640B	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]**

<b>Voluntary Standard</b>	<b>Rationale</b>
ASTM D5317-98 -- Standard Test Method For Determination of Chlorinated Organic Acid Compounds in Water by Gas Chromatography With an Electron	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

Capture Detector

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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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.

**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**

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 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/m<sup>3</sup> SO<sub>2</sub> or more. In addition, this method does not separate SO<sub>3</sub> from SO<sub>2</sub> as does EPA Method 6; therefore, this method is not valid if more than a negligible amount of SO<sub>3</sub> is present. Also, does not address ammonia interferences.

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

<b>Voluntary Standard</b>	<b>Rationale</b>
ASTM D5835-95 - Standard Practice for Sampling Stationary Source Emissions for Automated Determination of Gas Concentration	Similar to Methods 3a, 6c, 7e, 10, ALT 004, CTM 022. 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	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.
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ISO 10396:1993 - Stationary Source Emissions: Sampling for the Automated Determination of Gas Concentrations	Duplicates Method 3a, 6c, 7e, 10, ALT 004, CTM 022. Lacks in detail and quality assurance plus quality control requirements. Similar to ASTM D5835.
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**Government Standard: EPA Method 7 - Nitrogen Oxide Emissions Stationary Sources [Incorporated: 1999]**

<b>Voluntary Standard</b>	<b>Rationale</b>
ASME C00031 or PTC 19-10-1981 - Part 10 Flue and Exhaust Gas Analyses	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]**

<b>Voluntary Standard</b>	<b>Rationale</b>
ASTM D5835-95 - Standard Practice for Sampling Stationary Source Emissions for Automated Determination of Gas Concentration	Similar to Methods 3a, 6c, 7e, 10, ALT 004, CTM 022. 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	Too general. This standard lacks in detail and quality assurance/quality control requirements. Appendices with valid quality control information are not a required part
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in Enclosed Combustion Flue Gas Streams of this method.

ISO 10396:1993 - Stationary Source Emissions: Sampling for the Automated Determination of Gas Concentrations Duplicates Method 3a, 6c, 7e, 10, ALT 004, CTM 022. Lacks in detail and quality assurance plus quality control requirements. Similar to ASTM D5835.

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

**Voluntary Standard**

**Rationale**

ASTM D5835-95 - Standard Practice for Sampling Stationary Source Emissions for Automated Determination of Gas Concentration Similar to Methods 3a, 6c, 7e, 10, ALT 004, CTM 022. 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 Duplicates Method 3a, 6c, 7e, 10, ALT 004, CTM 022. Lacks in detail and quality assurance plus quality control requirements. Similar to ASTM D5835.

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

**Voluntary Standard**

**Rationale**

ASTM D5835-95 - Standard Practice for Sampling Stationary Source Emissions for Automated Determination of Gas Concentration Similar to Methods 3a, 6c, 7e, 10, ALT 004, CTM 022. 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 Duplicates Method 3a, 6c, 7e, 10, ALT 004, CTM 022. 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**

**Rationale**

ASTM D3031-81 - Method of Test for This method has been deleted from the final

Total Sulfur in Natural Gas (Hydrogenation), Withdrawn

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 2 (nitrogen oxide portion only) [Incorporated: 2001]**

**Voluntary Standard**

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

**Rationale**

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

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

**Voluntary Standard**

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

**Rationale**

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

**Rationale**

This international standard is only applicable

emissions. Automated monitoring of mass concentration of particles - Performance characteristics, test methods and specifications.

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

**Rationale**

This standard lacks details for instrument operation QA/QC, such as optimizing plasma operating conditions; upper limit of linear

Plasma-Atomic Emission Spectrometers 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.

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**Agency: General Services Administration (GSA)**

**Government Standard: Federal Specification KKK-A-1822E - Federal Specification for Ambulances [Incorporated: 2003]**

**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:** FF-L-2937 [Incorporated: 2006]

**Voluntary Standard**

UL 768

**Rationale**

Federal Specification FF-L-2937 -  
Combination Lock, Mechanical used in lieu of  
UL 768 Combination Locks. The lock covered  
by the GUS is used for the protection of  
classified information and weapons. The UL  
specification did not meet identified  
government needs for dialing tolerance and  
bolt end pressure.

**Government Standard:** MIL-G-9954 - Glass Beads for Cleaning and  
Peening [Incorporated: 2000]

**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.

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**Agency:** Department of Health and Human Services (HHS)

**Government Standard:** FDA Dosage Form and Route of  
Administration [Incorporated: 2006]

**Voluntary Standard**

HL7 Dosage Form and Route of  
Administration

**Rationale**

FDA uses some government-unique standards  
such as 'dosage form' and 'route of  
administration' in lieu of voluntary consensus  
standards. FDA had considered using HL7's  
'dosage form' and 'route of administration'  
voluntary standards, but rejected such  
voluntary standards for several reasons,  
including (1) pre-coordination of disparate

terms, (2) cumbersome and untimely terminology maintenance, and (3) inadequate terminology coding and versioning. The government-unique standards (developed by FDA and jointly maintained by FDA and NCI) for 'dosage form' and 'route of administration' adequately address all of these HL7 'deficiencies'. These particular government-unique standards were chosen as a CHI standard and mandated throughout the federal government, which is yet another compelling reason why FDA chose to continue to use them.

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

**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: 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 Sensitivity and bias of the ASTM Standard has

Method of an Evaluation of Preoperative, not been established.  
precatheterization, or Preinjection Skin  
Preparations

ASTM Standard E1174-00 - Standard Test Sensitivity and bias of the ASTM Standard has  
method for the Evaluation of the not been established.  
Effectiveness of Health Care Personnel  
or Consumer Handwash Formulations

**Government Standard: Government eligibility inquiry and response  
standards [Incorporated: 2006]**

**Voluntary Standard**  
X12 270/271 standards

**Rationale**  
Pending completion of a system to support  
real-time use of the X12 270/271, CMS has  
permitted providers and our contractors to  
continue to use government eligibility  
inquiry and response standards. Use of these  
GUSs is not in lieu of, but in addition to the  
X12 270/271 standards to avoid industry  
disruption prior to full transition to use of  
the HIPAA X12 270/271 standards with  
Medicare via the Internet and an Intranet.

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**Agency: Department of Housing and Urban Development (HUD)**  
**Government Standard: 24 CFR 200.935 - 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". Recently,

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**

ANSI A119.1 - Recreation Vehicles and NFPA 501C - Standard on Recreational Vehicles

**Rationale**

HUD-Unique Manufactured Home Construction & Safety Standards. HUD was required by legislation to “establish Federal construction and safety standards for manufactured homes and to authorize manufactured home safety research and development”. Recently, 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.

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**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));

**Rationale**

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

Encoded Archival Description (EAD);  
Machine Readable Cataloging (MARC)

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**Agency:** Department of Agriculture (USDA)

**Government Standard:** Name: WILDLAND FIRE FOAM Number: USDA Forest Service Specification 5100-307; July, 2000 Title: 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 wildland fire suppression situations and equipment. Standard 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 wildland-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 wildland fire equipment and situations that are unique, e.g. helicopter use of foams, remote storage situations, and varied quality of water sources in the wildland settings. The agency feels this standard more accurately reflects the needs and mission of the federal wildland fire suppression agencies.

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