SIP revision, or a portion thereof, EPA must promulgate a FIP no later than 2 years from the date of the finding if the deficiency has not been corrected.

VII. What Future Actions/Options Are Available for New York Regarding an Approvable 8-Hour Ozone SIP?

As discussed in this proposed rulemaking action, EPA has proposed certain determinations on some SIP components included in New York's 8-hour Ozone SIP submittals. EPA's proposed determinations are based on EPA's technical evaluation of the submittals and take into consideration the appropriate requirements pursuant to the Act, EPA rules and regulations, guidance and policy. EPA makes the following suggestions for correcting the identified deficiencies and strengthening New York's SIP.

Adoption of Control Measures

New York included in its 8-hour ozone SIP submittals an enforceable commitment to adopt specific measures within a specified timeframe such that the emission reductions would be achieved in time to assist in reducing ozone precursors for RFP and to achieve attainment as expeditiously as practicable. In this rulemaking, EPA is proposing to disapprove New York's RACT and RACM SIP submittal as they relate to a commitment to adopt and implement those additional measures. EPA encourages New York to accelerate its rulemaking process and adopt control measures prior to the commitment date of March 2010 for the RACT and RACM measures that have been identified and committed to by New York in order to achieve RFP and attainment of the 8-hour ozone standard as expeditiously as practicable, provide for cleaner air for the public and meet Clean Air Act requirements.

VIII. What Is the Status of New York's Reclassification Request?

EPA is in the process of evaluating New York's April 4, 2008 request to reclassify the New York–Northern New Jersey–Long Island, NY–NJ–CT 8-hour ozone nonattainment area from moderate to serious. Because this is a multi-state nonattainment area, EPA is evaluating its options in how best to proceed with addressing New York's request. Recently, EPA proposed to disapprove the attainment demonstrations submitted by New Jersey and Connecticut (74 FR 21578 and 74 FR 21568, respectively) for the remaining portions that make up the entire New York–Northern New Jersey–Long Island, NY–NJ–CT 8-hour ozone nonattainment area.

While New York included in its February 8, 2008 8-hour ozone SIP submittal SIP elements consistent with a reclassification or serious classification schedule for achieving attainment (*i.e.,* RFP plan for 2011, 2012 and attainment demonstration for 2013), EPA is not acting on any of those elements that go beyond the Act requirements associated with a moderate area classification. EPA will address New York's reclassification request and the other relevant SIP elements in one or more separate proposed actions in the near future.

IX. Statutory and Executive Order Reviews

Under the Clean Air Act, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, EPA's role is to approve state choices, provided that they meet the criteria of the Clean Air Act. Accordingly, this proposed action merely approves state law as meeting federal requirements and does not impose additional requirements beyond those imposed by state law. For that reason, this proposed action:

• Is not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Order 12866 (58 FR 51735, October 4, 1993);

• Does not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*);

• Is certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*);

• Does not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L.104–4);

• Does not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999);

• Is not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);

• Is not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);

• Is not subject to requirements of Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would

be inconsistent with the Clean Air Act; and

• Does not provide EPA with the discretionary authority to address, as appropriate, disproportionate human health or environmental effects, using practicable and legally permissible methods, under Executive Order 12898 (59 FR 7629, February 16, 1994).

In addition, this rule does not have tribal implications as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), because the SIP is not approved to apply in Indian country located in the state, and EPA notes that it will not impose substantial direct costs on tribal governments or preempt tribal law.

List of Subjects in 40 CFR Part 52

Environmental protection, Air pollution control, Hydrocarbons, Incorporation by reference, Intergovernmental relations, Oxides of Nitrogen, Ozone, Reporting and recordkeeping requirements, Volatile organic compounds.

Dated: August 14, 2009.

Barbara A. Finazzo,
Acting Regional Administrator, Region 2.
[FR Doc. E9–20394 Filed 8–24–09; 8:45 am]
BILLING CODE 6560–50–P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 60

[EPA–HQ–OAR–2008–0697; FRL–8948–9]

RIN 2060–AP08

Revisions to Test Method for Determining Stack Gas Velocity Taking Into Account Velocity Decay Near the Stack Walls

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: EPA is proposing to revise the voluntary test method for determining stack gas velocity taking into account the velocity decay near the stack or duct walls. When the method was originally developed, it addressed only sources where the flow measurements were made in locations with circular cross-sections. The proposed revised test method addresses flow measurement locations with both circular and rectangular cross-sections. The proposed revisions also include changes that increase the accuracy of the method and simplify its application. The primary users of the proposed method are likely to be owners and operators of utility units subject to the Acid Rain

Program under Title IV of the Clean Air Act; and certain large electric generating units and large non-electric generating units that are subject to the nitrogen oxides (NO_X) state implementation plan (SIP) call under Title I of the Clean Air Act. These sources use volumetric stack flow rate monitors in order to measure sulfur dioxide (SO_2) and NO_X mass emissions and unit heat input, and must conduct periodic relative accuracy test audits (RATAs) of the flow rate monitors at these units.

DATES: Comments must be received on or before October 26, 2009.

ADDRESSES: Submit your comments, identified by Docket ID Number EPA–HQ–OAR–2008–0697, by one of the following methods:

• *http://www.regulations.gov:* Follow the on-line instructions for submitting comments.

• *E-mail: a-and-r-Docket@epa.gov*, Attention Docket ID No. EPA–HQ–OAR–2008–0697

• *Fax:* 202–566–9744, Attention Docket ID. No. EPA–HQ–OAR–2008–0697.

• *Mail:* Air and Radiation Docket and Information Center, Environmental Protection Agency, Mail Code: 2822T, 1200 Pennsylvania Ave., NW., Washington, DC, 20460, Attention Docket ID No. EPA–HQ–OAR–2008–0697. Please include a total of two copies.

• *Hand Delivery:* Deliver your comments to: EPA Docket Center, 1301 Constitution Ave., NW., Room 3334, Washington, DC 20460. Attention Docket ID No. EPA–HQ–OAR–2008–0697. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions. Direct your comments to Docket ID No. EPA–HQ–OAR–2008–0697. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *http://www.regulations.gov* including any

personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *http://www.regulations.gov* or e-mail. The *http://www.regulations.gov* Web site is an ''anonymous access'' system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through *http://www.regulations.gov*, your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD–ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. For additional information about EPA's public docket, visit the EPA Docket Center homepage at *http://www.epa.gov/epahome/dockets.htm.*

Docket. All documents in the docket are listed in the *http://www.regulations.gov* index. Although listed in the index, some information is not publicly available, *e.g.*, CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *http://www.regulations.gov* or in hard copy at the Air and Radiation Docket and Information Center, EPA/DC, EPA West Building, Room 3334, 1301 Constitution

Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566–1744, and the telephone number for the Air Docket is (202) 566–1742.

FOR FURTHER INFORMATION CONTACT: Mr. Jason M. DeWees, US EPA, Office of Air Quality Planning and Standards, Air Quality Assessment Division, Measurement Technology Group (E143–02), Research Triangle Park, NC 27711; telephone (919) 541–9724; fax number (919) 541–0516; e-mail address *dewees.jason@epa.gov*.

SUPPLEMENTARY INFORMATION:

Table of Contents

I. Does This Action Apply to Me?

Entities potentially affected by this action include those listed in Table 1.

TABLE 1—ENTITIES POTENTIALLY AFFECTED BY THIS ACTION

Category	NAICS[a]	Examples of regulated entities
Industry	221112	Fossil fuel-fired electric utility steam generating units.
Federal government	[b] 221122	Fossil fuel-fired electric utility steam generating units owned by the Federal government.
State/local governments	[b] 221122	Fossil fuel-fired electric utility steam generating units owned by municipalities.
Tribal governments	921150	Fossil fuel-fired electric utility steam generating units in Indian country.

[a] North American Industry Classification System.
[b] Federal, State, or local government-owned and operated establishments are classified according to the activity in which they are engaged.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this proposed rule. If you have any questions regarding the applicability of this proposed rule to a particular entity, consult either the air permit authority for the entity or your

EPA regional representative as listed in 40 CFR 63.13.

II. What Should I Consider as I Prepare My Comments for EPA?

1. *Submitting CBI.* Do not submit this information to EPA through *http://www.regulations.gov* or e-mail. Clearly mark any of the information that you claim to be CBI. For CBI information in a disk or CD ROM that you mail to EPA, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

2. *Tips for Preparing Your Comments.* When submitting comments, remember to:
• Identify the rulemaking by docket number and other identifying information (subject heading, **Federal Register** date and page number).
• Follow directions—The agency may ask you to respond to specific questions or organize comments by referencing a Code of Federal Regulations (CFR) part or section number.
• Explain why you agree or disagree, suggest alternatives, and substitute language for your requested changes.
• Describe any assumptions and provide any technical information and/or data that you used.
• If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced.
• Provide specific examples to illustrate your concerns, and suggest alternatives.
• Explain your views as clearly as possible, avoiding the use of profanity or personal threats.
• Make sure to submit your comments by the comment period deadline identified.

III. Where Can I Obtain a Copy of This Action?

In addition to being available in the docket, an electronic copy of this proposed rule is also available on the World Wide Web through the Technology Transfer Network (TTN). Following the Administrator's signature, a copy of this proposed rule will be posted on the TTN's policy and guidance page for newly proposed or promulgated rules at *http://www.epa.gov/ttn/oarpg*. The TTN provides information and technology exchange in various areas of air pollution control.

IV. Background

In 1999, EPA promulgated three new stack flow test methods (64 FR 26484, May 14, 1999) designed to provide additional measurement options and increased accuracy by accounting for velocity decay at the wall and yaw and pitch angled flow. One of the methods, Determination of Stack Gas Velocity Taking Into Account Velocity Decay Near The Stack Wall (Method 2H), was intended to address an inherent bias when stack flow is measured in accordance with the equal area traverse procedure in Reference Method 1. The traverse point selection procedure in Method 1 provided a reasonable assessment of the average flow in the central portion of the stack, but it did not account for viscous shear that causes the velocity to drop off significantly near the stack walls. Method 2H allowed sources to make near wall measurements in order to calculate a wall effects adjustment factor (WAF) to correct the test method flow to account for the velocity decay near the stack wall. Unfortunately, Method 2H could only be used on circular stacks. At that time, the effort focused on developing and testing a method for applications where flow is measured in stacks with circular cross-sections, which represented the vast majority of the affected sources. The procedures did not address flow measurements in rectangular ducts even though the same viscous shear wall effect occurred in those locations, and the related bias was even more pronounced due to the geometry.

In 2003, EPA released Conditional Test Method 041 (CTM–041) based on a method developed by Electric Power Research Institute (EPRI) to address wall effects when flow is measured in rectangular ducts. In addition to filling a void in the flow reference methods, CTM–041 included a number of improvements over EPA Reference Method 2H. Since its release, the method has been successfully used by many sources through a petition process.

V. Why Is EPA Revising Method 2H?

EPA proposes to revise Method 2H to incorporate the measurement and calculation procedures included in CTM–041 for rectangular duct flow measurement locations. EPA is proposing to make this change based on the results of the field-testing performed by EPRI during the method's initial development and the successful application of these procedures at many sources since the CTM–041 was released. Incorporating these procedures will eliminate the need for the petition process, which owner or operators of rectangular duct sources seeking to address wall effects related bias must currently use.

The proposed revisions harmonize the procedures for circular and rectangular measurement locations and extend the improvements in CTM–041 to circular stacks. The proposed revised method does not require testing at multiple loads since there is no apparent load or flow rate levels (Reynolds Number) related effect. Under the proposed revisions, WAF testing does not need to be coupled with a Relative Accuracy Test Audit (RATA), allowing some sources to avoid the potential difficulties and problems associated with trying to measure wall effects using Methods 2F or 2G. Since the factors that significantly influence wall effects will not change appreciably over time, a WAF can continue to be used unless major modifications are made to the duct or stack and the RATA continues to include the same number of traverse points on which the WAF was based.

The logarithmic-overlap law has long been used to model flow near walls. As expected, the logarithmic-overlap law demonstrated excellent correlation with wall effects data from both agency and industry studies. The proposed revised method harnesses the accuracy of the logarithmic-overlap law in two ways. First, the proposed method includes an option where the logarithmic-overlap law is used to categorize near-wall velocities based on a limited number of measurements. This proposed approach solves a problem in the current method, where a full WAF assessment cannot be made if the ports protrude into the stack.

Secondly, the logarithmic-overlap law is also used, along with a few conservative assumptions, to develop stack specific default WAF values. This proposed option yields conservative WAF values that, unlike the "one-size-fits-all" defaults in the current version of Method 2H, take into consideration stack or duct geometry and velocity profile issues. The stack specific default factors do not offer sources the full velocity correction of the full WAF assessment option, but the stack specific default factors option is a reasonable approach for applications where additional measurements would be difficult.

Another proposed change to the method is the way the WAFs are applied under the revised method. Presently, the adjustment is applied

only to the RATA flow values. Under the revised method, the WAF is applied as an adjustment to the cross-sectional area value used both to calculate the continuous emissions monitors and reference method flows.

VI. Statutory and Executive Order Reviews

A. Executive Order 12866—Regulatory Planning and Reviews

This proposed action is not a ''significant regulatory action'' under the terms of Executive Order 12866 (58 FR 51735, October 4, 1993) and is, therefore, not subject to review under the Executive Order.

B. Paperwork Reduction Act

This proposed action does not impose an information collection burden under the provisions of the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* Burden is defined at 5 CFR 1320.3(b). The proposed amendments do not contain any reporting or recordkeeping requirements.

C. Regulatory Flexibility Act

The RFA generally requires an agency to prepare a regulatory flexibility analysis of any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

For purposes of assessing the impact of this proposed rule on small entities, small entity is defined as: (1) A small business as defined by the Small Business Administration's regulations at 13 CFR 121.201; (2) a small governmental jurisdiction that is a government of a city, county, town, school district or special district with a population of less than 50,000; and (3) a small organization that is any not-for-profit enterprise which is independently owned and operated and is not dominant in its field.

After considering the economic impacts of this proposed rule on small entities, I certify that this action will not have a significant economic impact on a substantial number of small entities. This action proposes to revise the test method for velocity decay at the stack or duct wall in 40 CFR part 60, Appendix A–2. The use of this method is a voluntary addition to the required volumetric flow rate methods. Therefore, this action does not impose any requirements on small entities. The

small entities affected by this proposed rule are small businesses, small governmental jurisdictions and small non-profits that operate facilities that currently voluntarily choose to use Method 2H. EPA anticipates that the proposed revised method will only be used by small entities if the use of the revised method results in overall cost savings due to the voluntary nature of the method.

Although this proposed rule will not have a significant economic impact on a substantial number of small entities, EPA nonetheless has tried to reduce the impact of this rule on small entities.

We continue to be interested in the potential impacts of the proposed rule on small entities and welcome comments on issues related to such impacts.

D. Unfunded Mandates Reform Act

This action contains no Federal mandates under the provisions of Title II of the Unfunded Mandates Reform Act of 1995 (UMRA), 2 U.S.C. 1531–1538 for State, local, or tribal governments or the private sector. The action imposes no enforceable duty on any State, local or tribal governments or the private sector. Therefore, this action is not subject to the requirements of sections 202 or 205 of the UMRA. This action is also not subject to the requirements of section 203 of UMRA because it contains no regulatory requirements that might significantly or uniquely affect small governments. This action proposes to revise the test method for velocity decay at the stack or duct wall in 40 CFR part 60. The use of this method is a voluntary addition to the required volumetric flow rate methods.

E. Executive Order 13132—Federalism

Executive Order 13132, entitled ''Federalism'' (64 FR 43255, August 10, 1999), requires EPA to develop an accountable process to ensure ''meaningful and timely input by State and local officials in the development of regulatory policies that have federalism implications.'' ''Policies that have federalism implications'' is defined in the Executive Order to include regulations that have ''substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.''

This proposed rule does not have federalism implications. It will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and

responsibilities among the various levels of government, as specified in Executive Order 13132. Because this method is an alternative method, its use is voluntary.

In the spirit of Executive Order 13132, and consistent with EPA policy to promote communications between EPA and State and local governments, EPA specifically solicits comments on this proposed rule from State and local officials.

F. Executive Order 13175—Consultation and Coordination with Indian Tribal Governments

This action does not have tribal implications, as specified in Executive Order 13175 (65 FR 67249, November 9, 2000). In this action, EPA is simply proposing to revise an existing, optional test method. Thus, Executive Order 13175 does not apply to this rule.

EPA specifically solicits additional comment on this proposed action from tribal officials.

G. Executive Order 13045—Protection of Children From Environmental Health Risks and Safety Risks

EPA interprets Executive Order 13045 (62 FR 29885, April 23, 1997) as applying only to those regulatory actions that concern health or safety risks, such that the analysis required under section 5–501 of the Executive Order has the potential to influence the regulation. This action is not subject to Executive Order 13045 because it does not establish an environmental standard intended to mitigate health or safety risks.

H. Executive Order 13211—Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use

This action is not subject to Executive Order 13211 (66 FR 28355 (May 22, 2001)), because it is not a significant regulatory action under Executive Order 12866.

I. National Technology Transfer and Advancement Act

Section 12(d) of the National Technology Transfer and Advancement Act of 1995 (''NTTAA''), Public Law 104–113, 12(d) (15 U.S.C. 272 note) directs EPA to use voluntary consensus standards in its regulatory activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards

bodies. NTTAA directs EPA to provide Congress, through OMB, explanations when the Agency decides not to use available and applicable voluntary consensus standards.

EPA is not proposing a new test method in this rulemaking but is revising an existing optional method that is used in conjunction with methods already mandated for evaluating compliance with current emission standards. EPA is not aware of any voluntary consensus standards that would address the specific need. Therefore, EPA is not considering the use of any voluntary consensus standards.

J. Executive Order 12898—Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations

Executive Order 12898 (59 FR 7629, February 16, 1994) establishes federal executive policy on environmental justice. Its main provision directs federal agencies, to the greatest extent practicable and permitted by law, to make environmental justice part of their mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority populations and low-income populations in the United States.

EPA has determined that this proposed rule will not have disproportionately high and adverse human health or environmental effects on minority or low-income populations because it does not affect the level of protection provided to human health or the environment.

This action only revises an existing optional method that is used in conjunction with methods already mandated for evaluating compliance with current emission standards.

List of Subjects in 40 CFR Part 60

Environmental protection, Air pollution control, Continuous emission monitors, New sources, Performance specifications, Test methods and procedures.

Dated: August 18, 2009.

Lisa P. Jackson,

Administrator.

For the reasons set out in the preamble, title 40, chapter I of the Code of Federal Regulations is proposed to be amended as follows:

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

1. The authority citation for part 60 continues to read as follows:

Authority: 42 U.S.C. 7410, 7414, 7421, 7470–7479, 7491, 7492, 7601 and 7602.

2. Amend Appendix A–2 by revising Method 2H to read as follows:

Appendix A–2 to Part 60 —Test Methods 2G Through 3C

* * * * *

Method 2H—Determination of STACK GAS VELOCITY Taking Into Account Velocity Decay Near the Stack Walls

1.0 Scope and Application

1.1 This method may be applied when determining volumetric flow to account for velocity decay near the walls. Adherence to the requirements of this method will enhance the quality of the data obtained from air pollutant sampling methods.

1.2 This method includes provisions to account for wall effects at circular stack and rectangular duct measurement locations. If the reference method flow is measured in a stack with a circular cross section, follow the procedures in this method for circular stacks. If the reference method flow is measured in a duct with a rectangular cross section follow the procedures in this method for rectangular ducts. All provisions in this method apply to both circular stack and rectangular duct measurement applications unless otherwise specified.

1.3 This method is not applicable for testing circular stacks or ducts less than 3.3 ft (1.0 m) in diameter, or rectangular stacks or ducts less than 8.5 ft² (0.79 m²) in area.

[The terms ''stack'' and ''duct'' are and can be used interchangeably throughout this method.]

2.0 Summary of Method

2.1 A wall effects adjustment factor (WAF) is determined. The WAF is used to adjust the cross-sectional area value used to calculate volumetric flow based on reference method or continuous emission monitoring system (CEMS) gas velocity measurements to take into account velocity decay near the stack or duct walls.

2.2 The method contains a calculation approach to derive wall effects adjustment factors based on either measured velocities or a combination of measured and modeled velocities. The method also contains procedures to determine a duct or stack specific default based on conservative velocity estimates, requiring no additional velocity measurements. Unless a duct or stack specific default is used, any adjustment factor must be based on at least three wall effect test runs.

2.3 The wall effects test may be conducted as part of a relative accuracy test audit (RATA) or as a separate test procedure. Any WAF that is derived using this procedure can only be applied to calculate volumetric flows in conjunction with velocity values from RATAs consisting of the same number (or fewer) of Method 1 of Appendix A–1 traverse points used to determine the WAF or from a CEMS for which such a RATA has been conducted. A wall effects test must be completed whenever the stack or ductwork is altered such that the flow profile is significantly changed.

3.0 Definitions

3.1 d_{last} means, depending on context, either (1) the distance from the wall of the last one-inch incremented wall effects traverse point or (2) the traverse point located at that distance (see Figures 2H–3 and 2H–4).

3.2 d_{rem} means, depending on context, either (1) the distance from the wall of the centroid of the area between d_{last} and the interior edge of the Method 1 of Appendix A–1 equal-area sector closest to the wall or (2) the traverse point located at that distance (see Figure 2H–3). For rectangular duct measurement locations, more than one d_{rem} point may be required (*see* Figure 2H–4):

3.2.1 d_{rem_y} represents d_{rem} for the wall perpendicular to the test port wall.

3.2.2 d_{rem_x} represents d_{rem} for the test port wall.

3.2.3 d_{rem_c} represents d_{rem} for the Method 1 corner equal-area sector.

3.3 ''May,'' ''Must,'' ''Shall,'' ''Should,'' and the imperative form of verbs.

3.3.1 ''May'' is used to indicate that a provision of this method is optional.

3.3.2 ''Must,'' ''Shall,'' and the imperative form of verbs (such as ''record'' or ''enter'') are used to indicate that a provision of this method is mandatory.

3.3.3 ''Should'' is used to indicate that a provision of this method is not mandatory but is highly recommended as good practice.

3.4 *Method 1* refers to 40 CFR Part 60, Appendix A–1, ''Method 1–Sample and Velocity Traverses for Stationary Sources.''

3.5 *Method 2* refers to 40 CFR Part 60, Appendix A–1, ''Method 2–Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube).''

3.6 *Method 2F* refers to 40 CFR Part 60, Appendix A–1, ''Method 2F–Determination of Stack Gas Velocity and Volumetric Flow Rate with Three-Dimensional Probes.''

3.7 *Method 2G* refers to 40 CFR Part 60, Appendix A–2, ''Method 2G–Determination of Stack Gas Velocity and Volumetric Flow Rate with Two-Dimensional Probes.''

3.8 *One-inch incremented wall effects traverse point* means any of the wall effects traverse points that are located at one-inch intervals, i.e., traverse points d_1 through d_{last} (*see* Figures 2H–3 and 2H–4).

3.9 *Opposing test port wall* means the wall that is parallel to the test port wall on the opposite side of the duct or stack.

3.10 *Relative accuracy test audit (RATA)* is a field test procedure performed in a stack or duct in which a series of concurrent measurements of the same effluent stream is taken by a reference method and an installed monitoring system. A RATA usually consists of a series of 9 to 12 sets of such concurrent measurements, each of which is referred to as a RATA run. In a volumetric flow RATA, each reference method run consists of a complete traverse of the stack or duct.

3.11 *Test port wall* means the wall of the duct or stack in which test ports are mounted.

3.12 *Wall effects unadjusted average velocity* means the average gas velocity, not accounting for velocity decay near the wall, as determined in accordance with Method 2, 2F, or 2G for a Method 1 traverse.

3.13 *Wall effects adjusted average velocity* means the average gas velocity, taking into account velocity decay near the wall, as calculated from measurements at the Method 1 traverse points and at the additional wall effects traverse points specified in this method.

3.14 *Wall effects traverse point* means a traverse point located in accordance with Section 8.1.2 of this method.

4.0 Interferences [Reserved]

5.0 Safety

This method may involve hazardous materials, operations, and equipment. This method does not purport to address all of the health and safety considerations associated with its use. It is the responsibility of the user of this method to establish appropriate health and safety practices and to determine the applicability of occupational health and safety regulatory requirements prior to performing this method.

6.0 Equipment and Supplies

The provisions pertaining to equipment and supplies in the method that is used to take the traverse point measurements (i.e., Method 2, 2F, or 2G of Appendix A–1 and A–2) are applicable under this method.

7.0 Reagents and Standards [Reserved]

8.0 Sample Collection and Analysis

8.1 *Traverse Point Locations and Measurements.* Conduct measurements at Method 1 of Appendix A–1 and wall effects traverse points in accordance with Method 2, 2F, or 2G of Appendix A–1 and A–2 and Section 8.2 of this method. Determine the location of the Method 1 of Appendix A–1 traverse points in accordance with Section

8.1.1, and the location of the wall effects traverse points in accordance with Section 8.1.2. The alternative procedures of Section 8.3 may be used in lieu of performing all the measurements specified in this section. All traverse points are determined with respect to the test ports used when conducting RATAs.

8.1.1 Method 1 equal-area traverse point locations. Determine the location of the Method 1 of Appendix A–1 equal-area traverse points using Table 1–1 (Cross Section Layout for Rectangular Stacks) or Table 1–2 (Location of Traverse Points in Circular Stacks) in Method 1 of Appendix A–1, as appropriate, and the procedure described in Section 11.3 of Method 1 of Appendix A–1.

8.1.2 Wall effects traverse point locations. Measurements must be taken at the following points from at least four test ports. Measurements may be taken from any available test port, provided that all measurements are made in the same test plane and that at least four test ports are used. For the purpose of this method, near wall measurements are excluded from test ports where the flow is disturbed at a required traverse point located in the equal area nearest the test port wall because upstream cross-bracing (or some other disturbance) near the traverse location is directly in-line with the required traverse point. If necessary or desired, near wall measurements can be made from ports located on more than one duct wall on rectangular ducts or stacks.

8.1.2.1 Circular stack wall effects traverse point locations:

(a) One-inch increments from the wall. At least one increment point must be measured. Measurements may be taken at any number of additional one-inch increments, provided that each point must be located at a distance that is a whole number (e.g., 1, 2, 3) multiple of 1 in. (2.5 cm) from the wall and that no one-inch intervals are omitted between increments.

(b) d_{rem}, as determined using Equation 2H–1.

(c) d_{M1}, the distance of the first Method 1 of Appendix A–1 equal area traverse point closest from the test port wall. Measurements need not be repeated if already required under Section 8.1.1.

8.1.2.2 Rectangular duct wall effects traverse point locations:

(a) One-inch increments from the wall. At least one increment point must be measured. Measurements may be taken at any number of additional one-inch increments, provided that each point must be located at a distance that is a whole number (e.g., 1, 2, 3) multiple of 1 in. (2.5 cm) from the wall and that no one-inch intervals are omitted between increments.

(d) d_{rem_x}, as determined using Equation 2H–3.

(e) d_{rem_y}, as determined using Equation 2H–5.

(f) d_{M1_y}, the distance between the wall perpendicular to the test port wall and the centroid of the Method 1 exterior equal-area sector adjacent to that wall as determined using Equation 2H–7.

(g) d_{M1}, the distance of the first Method 1 of Appendix A–1 equal area traverse point closest from the test port wall. Measurements need not be repeated if already required under Section 8.1.1.

8.1.2.3 If the probe cannot be positioned at 1 in. (2.5 cm) from the wall (e.g., because of insufficient room to withdraw the probe shaft) or if the flue gas velocity cannot be measured at 1 in. (2.5 cm) from the wall because the port extends beyond the wall into the stack or duct, take measurements at the one-inch incremented wall effects traverse point closest to the wall where the probe can be positioned and the velocity probe head clears the port. It should be noted that the full extent of velocity decay may not be accounted for if measurements cannot be made at the 1-in. incremented wall effects traverse points closest to the wall.

8.1.2.4 For circular stack measurement locations, calculate the distance d_{rem} to within ±¼ in. (6.4 mm):

$$d_{rem} = r - \sqrt{\left(\frac{p-1}{p}\right)r^2 - rd_{last} + \frac{1}{2}d_{last}^2} \qquad \text{Eq. 2H-1}$$

Where:

r = stack or duct radius in. (cm)
p = the number of Method 1 of Appendix A–1 equal area traverse points on a diameter, (e.g., for a 16-point traverse, $p = 8$)

8.1.2.5 For circular stack measurement locations, the last one-inch interval, d_{last}, must not be closer to the center of the stack or duct than the distance of the interior boundary, d_b, of the Method 1 of Appendix A–1 equal area closest to the wall. That is, $d_{last} \leq d_b$, where:

$$d_b = r\left(1 - \sqrt{1 - \frac{2}{p}}\right) \qquad \text{Eq. 2H-2}$$

8.1.2.6 For rectangular duct measurement locations, calculate the following distances to within ±¼ in. (6.4 mm):

$$d_{rem_x} = d_{last} + \frac{\left(d_{b_x} - d_{last}\right)}{2} \qquad \text{Eq. 2H-3}$$

(a) d_{rem_x}
Where:

d_{b_x} = the distance from the test port wall to the interior edge of the Method 1 of Appendix A–1 equal-area sector closest to that wall (Equation 2H–4)
d_{last} = the distance from the test port wall to the last one-inch measurement farthest from that wall as defined in Section 3.1. (If $d_{last} > d_{b_x}$, then substitute the greatest

one-inch interval less than or equal to d_{b_x} in the preceding equation to calculate d_{rem_x}.)

$$d_{b_x} = \frac{L_x}{P_x} \qquad \text{Eq. 2H-4}$$

Where:

L_x = length of the duct or stack in the direction perpendicular to the test port wall (see Figure 2H–2)
P_x = number of traverse points at each test port as determined by Method 1 of Appendix A–1

(b) d_{rem_y}

$$d_{rem_y} = d_{last} + \frac{\left(d_{b_y} - d_{last}\right)}{2} \qquad \text{Eq. 2H-5}$$

Where:

d_{b_y} = the distance from the wall perpendicular to the test port wall to the interior edge of the Method 1 of Appendix A–1 equal-area sector closest to that wall (Equation 2H–6)

d_{last} = the distance from the test port wall to the last one-inch measurement farthest from that wall as defined in Section 3.1. (If $d_{last} > d_{b_y}$, then substitute the greatest one-inch interval less than or equal to d_{b_y} in the preceding equation to calculate d_{rem_y}.)

$$d_{b_y} = \frac{L_y}{P_y} \qquad \text{Eq. 2H-6}$$

Where:

L_y = length of the duct or stack in the direction parallel to the test port wall (see Figure 2H–2)

P_y = number of test ports required by Method 1 of Appendix A–1 along a single wall

(c) d_{M1_y}

$$d_{M1_y} = \frac{d_{b_y}}{2} \qquad \text{Eq. 2H-7}$$

8.1.3 Special considerations. The following special considerations apply when the distance between traverse points is less than or equal to ½ in. (12.7 mm).

8.1.3.1 A wall effects traverse point and the Method 1 of Appendix A–1 traverse point. If the distance between a wall effects traverse point and the Method 1 of Appendix A–1 traverse point is less than or equal to ½ in. (12.7 mm), taking measurements at both points is allowed but not required or recommended. If measurements are taken at only one point, take the measurements at the point that is farther from the wall, and use the velocity obtained at that point as the value for both points.

8.1.3.2 d_{rem} and d_{last}. If the distance between d_{last} and d_{rem} (or, for rectangular ducts, d_{rem_x}, d_{rem_y}, or d_{rem_c}) is less than or equal to ½ in. (12.7 mm), taking measurements at d_{rem} is allowed but not required or recommended. If measurements are not taken at d_{rem}, the measured velocity value at d_{last} must be used as the value for both d_{last} and d_{rem}.

8.1.3.3 d_{rem_x} and d_{rem_y}. If the distance between the two d_{rem} points is less than or equal to ½ in (12.7 mm), taking measurements at each of the affected points is allowed but not required or recommended. If measurements are not taken at each of the affected d_{rem} points, the measured velocity may be taken at one of them and substituted for the remaining point.

8.2 *Traverse Point Sampling Order and Probe Selection.* Determine the sampling order of the Method 1 of Appendix A–1 and wall effects traverse points, and select the appropriate probe(s) for the measurements, taking into account the following considerations.

8.2.1 To reduce the likelihood of velocity variation and its potential impact on the wall effect determinations, the following provisions of this method shall be met.

8.2.1.1 All wall effects traverse points specified in Section 8.1.2 shall be sampled without interruption.

8.2.1.2 During each run, the entire integrated Method 1 and wall effects traverse across all test ports shall be as short as practicable.

8.2.2 The same type of probe must be used to take measurements at all Method 1 of Appendix A–1 and wall effects traverse points. However, different probes of the same type may be used at different ports (e.g., Type S probe 1 at port A, Type S probe 2 at port B) or at different traverse points accessed from a particular port (e.g., Type S probe 1 for Method 1 of Appendix A–1 interior traverse points accessed from port A, Type S probe 2 for wall effects traverse points and the Method 1 of Appendix A–1 exterior traverse point accessed from port A). The identification number of the probe used to obtain measurements at each traverse point must be recorded.

8.3 *Alternative Measurement Reduction Approaches (Optional).* The following alternatives may be used to reduce the number of measurements required to calculate WAF values. The velocities calculated using these alternative approaches will be used in conjunction with the procedures in Section 12 to determine WAF values.

8.3.1 In lieu of taking measurements at each point, Equation 2H–8 may be used to calculate velocities for each one-inch interval and all other points (e.g., $d_{rem x}$) that are less than 12 in. (30 cm) from the test port wall based on the velocity measured at the first available one-inch interval that is at least two in. from the wall and the velocity measured 12 in. (30 cm) from the wall.

$$V_d = V_2 - (V_2 - V_1)\frac{\ln(d/12)}{\ln(y_1/12)} \qquad \text{Eq. 2H-8}$$

Where:

V_d = velocity at distance d from wall, ft/s (m/s)

V_1 = velocity measured at the closest available one-inch interval that is at least two in. from the wall, ft/s (m/s)

V_2 = velocity measured at a distance of 12 in. (30 cm) from the wall, ft/s (m/s)

y_1 = distance of the closest available one-inch interval that is at least two in. from the wall, in. (cm/2.54)

d = distance d from wall, in. (cm/2.54)

8.3.2 Duct or stack specific WAF default values may be determined in conjunction with the procedures of Section 12 using velocity values calculated in the following manner.

$$V_d = V_2 \left[\frac{\ln \dfrac{d}{0.0024} + 0.41(8.5)}{\ln \dfrac{y_2}{0.0024} + 0.41(8.5)} \right] \qquad \text{Eq. 2H-9}$$

Where:

V_d = velocity at distance d from wall, ft/s (m/s)

V_2 = velocity measured at the first regular equal area traverse point, ft/s (m/s)

y_2 = reference distance determined in accordance with 8.3.2(a) or (b), in. (cm/2.54)

d = distance d from wall, in. (cm/2.54)

(a) Calculate the velocity at the near wall one-inch intervals (1 in. to 12 in.) using

Equation 2H–9. Use y_2 = distance from the wall of the first Method 1 of Appendix A–1 equal area traverse point minus 0.5 in. (1.27 cm) unless the distance is greater than 12 in. (30 cm) then use y_2 = 12 in. (30 cm). If y_2 is less than one in. (2.54 cm), use y_2 = 1 in. (2.54 cm).

(b) Calculate the velocities at the d_{rem}, $d_{rem x}$, $d_{rem y}$, and d_{M1y} locations using Equation 2H–9. Use y_2 = distance from the wall of the first regular equal area traverse

point. If the respective distance (d_{rem}, $d_{rem x}$, $d_{rem y}$, or d_{M1y}) is greater than 12 in. (30 cm) but less than the distance from the wall of the first Method 1 of Appendix A–1 equal area traverse point, substitute the velocity measured at the first Method 1 of Appendix A–1 equal area traverse point for desired velocity.

9.0 *Quality Control*

9.1 *Verifying Traverse Point Distances.* In taking measurements at wall effects traverse

points, it is very important for the probe impact pressure port to be positioned as close as practicable to the traverse point locations in the gas stream. For this reason, before beginning wall effects testing, it is important to calculate and record the traverse point positions that will be marked on each probe (or programmed for automated probes) for each port, taking into account the distance that each port nipple (or probe mounting flange for automated probes) extends out of the stack or duct and any extension of the port nipple (or mounting flange) into the gas stream. Ensure that the distance of each mark from the center of the probe impact pressure port agrees with the previously calculated traverse point positions to within ± ½ in. (6.4 mm).

9.2 *Probe Installation.* Properly sealing the port area is particularly important in taking measurements at wall effects traverse points. For testing involving manual probes, the area between the probe sheath and the port should be sealed with a tightly fitting flexible seal made of an appropriate material such as heavy cloth so that leakage is minimized. For automated probe systems, the probe assembly mounting flange area should be checked to verify that there is no leakage.

9.3 *Velocity Stability.* This method should be performed only when the average gas velocity in the stack or duct is relatively constant over the duration of the test. If the average gas velocity changes significantly during the course of a wall effects test, the test results should be discarded.

10.0 Calibration

The calibration coefficient(s) or curves obtained under Method 2, 2F, or 2G of Appendix A–1 and A–2 and used to perform the Method 1 of Appendix A–1 traverse are applicable under this method.

11.0 Analytical Procedure

Sample collection and analysis are concurrent for this method (see Section 8).

12.0 Data Analysis and Calculations

The following calculations shall be performed to obtain a WAF.

12.1 *Nomenclature.* The following terms are listed in the order in which they appear in Equations 2H–10 through 2H–23.

$\hat{v}_X$ = stack or duct gas point velocity value, adjusted for wall effects, at Method 1 of Appendix A–1 traverse point location (d_{MI}) for the exterior equal-area sectors adjacent to the test port wall, actual ft/sec (m/sec);

v_d = the measured stack gas velocity at distance d from the wall, actual ft/sec (m/sec); Note: $v_0 = 0$;

r = stack or duct radius in in. (cm)

d = distance of a 1-in. incremented wall effects traverse point from the wall, for traverse points d^I through d_{last}, in. (cm);

δ = distance between one-inch intervals, 1 in., (2.5 cm);

v_{drem} = the measured stack gas velocity at distance d_{rem} from the test port wall, actual ft/sec (m/sec);

d_{last} = distance from the wall of the last 1-in. incremented wall effects traverse point, in. (cm);

p = the number of Method 1 of Appendix A–1 equal area traverse points on a diameter, (e.g., for a 16-point traverse, p = 8);

d_{b_x} = distance from the test port wall to the interior edge of the Method 1 of Appendix A–1 equal-area sector closest to that wall (see Equation 2H–4);

v_{drem_x} = the measured stack gas velocity at distance d_{rem_x} from the test port wall, actual ft/sec (m/sec);

v_{last} = the measured stack gas velocity at distance d_{last} from the wall, actual ft/sec (m/sec);

$\hat{v}_y$ = stack or duct gas point velocity value, adjusted for wall effects, d_{MI_y} from the test port wall, actual ft/sec (m/sec);

v_{drem_y} = the measured stack gas velocity at distance d_{rem_y} from the test port wall, actual ft/sec (m/sec);

d_{b_y} = distance from the wall perpendicular to the test port wall to the interior edge of the Method 1 of Appendix A–1 equal-area sector closest to that wall (see Equation 2H–6);

$\hat{v}_c$ = stack or duct gas point velocity value, adjusted for wall effects, at d_{MI} or d_{MI_y} (whichever is less) from the test port wall, actual ft/sec (m/sec);

$\hat{v}_{drem_c}$ = the measured stack gas velocity at a distance of d_{rem_x} for corner test ports or at a distance of d_{rem_x} if $d_{MI} \leq d_{m1_y}$ or d_{rem_y} if $d_{MI} > d_{MI_y}$ for non-corner test ports, actual ft/sec (m/sec);

C_x = wall effects adjustment factor for a single traverse for all Method 1 of Appendix A–1 non-corner, exterior equal-area sectors adjacent to the test port wall and the opposing test port wall, dimensionless;

n_x = total number of test ports where near wall measurements are made;

v_x = stack or duct gas point velocity value, unadjusted for wall effects, at Method 1 of Appendix A–1 traverse point location (d_{MI}) for the exterior equal-area sectors adjacent to the test port wall, actual ft/sec (m/sec);

j = index test ports where near wall measurements are made;

C_y = wall effects adjustment factor for a single traverse for Method 1 of Appendix A–1 non-corner, exterior equal-area sectors adjacent to the walls perpendicular to the test port wall, dimensionless;

v_y = stack or duct gas point velocity value, unadjusted for wall effects, at d_{MI_y} from the test port wall, actual ft/sec (m/sec);

C^*_c = wall effects adjustment factor for a single traverse for Method 1 of Appendix A–1 corner equal-area sectors that excludes the impact of greater intense shear in the duct corners, dimensionless;

v_c = stack or duct gas point velocity value, unadjusted for wall effects, at d_{MI} for corner test ports or at d_{MI} or d_{MI_y} (whichever distance is less) from for non-corner test ports, actual ft/sec (m/sec);

$C_{c_{adj}}$ = an adjustment factor applied to C^*_c to account for the impact of greater intense shear in the duct corners, calculated in accordance with Section 12.9, dimensionless;

C_c = wall effects adjustment factor for a single traverse for Method 1 of Appendix A–1 corner equal-area sectors including the impact of greater intense shear in the duct corners, dimensionless;

i = index of Method 1 of Appendix A–1 equal-area traverse points;

$\hat{v}_i$ = stack or duct gas point velocity value, adjusted for wall effects, at Method 1 of Appendix A–1 equal-area sector i, actual ft/sec (m/sec);

v_i = stack or duct gas point velocity value, unadjusted for wall effects, at Method 1 of Appendix A–1 equal-area sector i, actual ft/sec (m/sec);

C_i = wall effects adjustment factor for Method 1 of Appendix A–1 equal-area sector i, dimensionless;

n = total number of traverse points in the Method 1 of Appendix A–1 traverse;

v_{avg} = the average stack or duct gas velocity, unadjusted for wall effects, actual ft/sec (m/sec);

$\hat{v}_{avg}$ = the average stack or duct gas velocity, adjusted for wall effects, actual ft/sec (m/sec);

WAF = the overall wall effects adjustment factor derived from v_{avg} and $\hat{v}_{avg}$ for a single traverse, dimensionless;

$\overline{WAF}$ = wall effects adjustment factor that is applied to the cross-sectional area value used to calculate wall effects-adjusted volumetric flow based on reference method or CEMS velocity measurements, dimensionless;

Q_{adj} = the total stack or duct gas volumetric flow rate, adjusted for wall effects, actual ft³/sec (m³/sec);

$Q_{adj_{std}}$ = the total stack or duct gas volumetric flow rate corrected to standard conditions, adjusted for wall effects, scf/sec (scm/sec);

A = duct or stack cross-sectional area at measurement location, ft²;

T_{avg} = average flue gas temperature, °R (°K) [°R = 460 + °F (°K = 273 + °C)];

T_{std} = standard temperature, 528 °R (293 °K);

P_{avg} = average absolute flue gas pressure, in. Hg (mm Hg);

P_{std} = standard absolute pressure, 29.92 in. Hg (760 mm Hg);

12.2 For circular stack measurement locations, calculate the wall effects adjusted velocities for the Method 1 of Appendix A–1 equal area sectors adjacent to the test port wall using Equation 2H–10:

$$\hat{v}_x = \frac{\sum_{d=1}^{d_{last}} \left\{ \frac{v_{d-1} + v_d}{2} \left[(r - d + \delta)^2 - (r - d)^2 \right] \right\} + v_{drem} \left[(r - d_{last})^2 - (r - d_b)^2 \right]}{r^2 - (r - d_b)^2} \qquad \text{Eq. 2H-10}$$

12.3　For rectangular duct measurement locations, calculate the wall effects adjusted velocities for the Method 1 of Appendix A–

1 equal area sectors adjacent to the test port wall using the following equations.

12.3.1　Calculate the wall effects adjusted velocity, $\hat{v}_x$, for each of the Method 1 of

Appendix A–1 equal-area sectors adjacent to the test port wall using Equation 2H–11. If $d_{last} > d_{b_x}$, substitute the greatest one-inch interval less than d_{b_x} for d_{last}.

$$\hat{v}_x = \frac{\left[\sum_{d=1}^{d_{last}-1}(v_d)\delta + \frac{v_{last}}{2}\delta + v_{dremx}\left(d_{b_x} - d_{last}\right)\right]}{d_{b_x}} \qquad \text{Eq. 2H-11}$$

12.3.2　Calculate the wall effects adjusted velocity, $\hat{v}_y$, for each of the Method 1 of

Appendix A–1 equal-area sectors adjacent to the test port wall using Equation 2H–12. If

$d_{last} > d_{b_y}$, substitute the greatest one-inch interval less than d_{b_y} for d_{last}.

$$\hat{v}_y = \frac{\left[\sum_{d=1}^{d_{last}-1} v_d\,\delta + \frac{v_{last}}{2}\delta + v_{dremy}\left(d_{b_y} - d_{last}\right)\right]}{d_{b_y}} \qquad \text{Eq. 2H-12}$$

12.3.3　Calculate the wall effects adjusted velocity, $\hat{v}_c$, for each of the Method 1 of Appendix A–1 equal-area sectors adjacent to

the test port wall using Equation 2H–13. If $d_{last} > d_{b_x}$ or $d_{last} > d_{b_y}$, substitute the greatest

one-inch interval less than d_{b_x} or d_{b_y} (whichever is less) for d_{last}.

$$\hat{v}_c = \frac{\sum_{d=1}^{d_{last}}\left[\left(\frac{v_{d-1}+v_d}{2}\right)\left(d_{b_x}+d_{b_y}-2d+1\right)\right]\delta + v_{drem_c}\left(d_{b_x}-d_{last}\right)\left(d_{b_y}-d_{last}\right)}{d_{b_x}d_{b_y}} \qquad \text{Eq. 2H-13}$$

12.4　For rectangular duct measurement locations, calculate the velocity correction factors for the Method 1 of Appendix A–1 equal area sectors adjacent to the test port wall using the following equations. If any of the test ports are located 12 or less in. from an adjacent wall (or ash layer), then reduce n_x by the number of those ports and substitute that value for n_x in the following equations.

12.4.1　Calculate the wall effects correction factor, C_x, for Method 1 of Appendix A–1 non-corner equal-area sectors adjacent to the test port wall and the opposing test port wall using Equation 2H–14.

$$C_x = \frac{\sum_{j=1}^{n_x}\left(\frac{\hat{v}_x}{v_x}\right)_j}{n_x} \qquad \text{Eq. 2H-14}$$

12.4.2　Calculate the wall effects correction factor, C_y, for Method 1 of Appendix A–1 non-corner equal-area sectors adjacent to the walls perpendicular to the test port wall using Equation 2H–15.

$$C_y = \frac{\sum_{j=1}^{n_x}\left(\frac{\hat{v}_y}{v_y}\right)_j}{n_x} \qquad \text{Eq. 2H-15}$$

12.4.3　Calculate the wall effects correction factor, C^*_c, for all Method 1 of Appendix A–1 corner equal-area sectors using Equation 2H–16.

$$C^*_c = \frac{\sum_{j=1}^{n_x}\left(\frac{\hat{v}_c}{v_c}\right)_j}{n_x} \qquad \text{Eq. 2H-16}$$

12.5　For circular stacks, determine the velocity for each Method 1 of Appendix A–1 equal-area sector, $\hat{v}_i$, adjusted for wall effects in the following manner:

(a) For equal area sectors adjacent to the test port wall that are used for normal reference method flow testing, $\hat{v}_i = \hat{v}_x$, where $\hat{v}_x$ is calculated using Equation 2H–10.

(b) For interior equal area sectors, $\hat{v}_i = v_i$.

(c) If, in accordance with section 8.1.2, near wall measurements are excluded from any test ports that are used for normal reference method flow testing (or no test port is available for any exterior Method 1 of Appendix A–1 equal area sector), the wall effects adjusted velocities for the excluded Method 1 of Appendix A–1 equal area sectors is calculated as $\hat{v}_i = v_I \times C_x$. Calculate C_X using Equation 2H–14.

12.6　For rectangular ducts, calculate the velocity in each Method 1 of Appendix A–1 equal-area sector, $\hat{v}_i$, adjusted for wall effects, using Equation 2H–17:

$$\hat{v}_i = v_i \times C_i \qquad \text{Eq. 2H-17}$$

Where:

C_i is the appropriate correction factor for the given Method 1 of Appendix A–1 equal-area sector:

$C_i = 1$ for Method 1 of Appendix A–1 interior equal-area sectors

$C_i = C_x$ for Method 1 of Appendix A–1 non-corner, exterior equal-area sectors

adjacent to the test port wall or the opposing test port wall

$C_i = C_y$ for Method 1 of Appendix A–1 non-corner, exterior equal-area sectors adjacent to the walls perpendicular to the test port wall

$C_i = C_c$ for Method 1 of Appendix A–1 corner equal-area sectors. $C_c = C^*_c \times C_{c_{adj}}$ (See Section 12.9)

12.7　Calculate the wall adjustment factor, *WAF,* using Equations 2H–18 through 2H–20.

12.7.1　Calculate the average stack or duct gas velocity that does not account for velocity decay near the wall (v_{avg} using Equation 2H–18.

$$v_{avg} = \frac{\sum_{i=1}^{n} v_i}{n} \qquad \text{Eq. 2H-18}$$

12.7.2　Calculate the average stack or duct gas velocity, adjusted for wall effects, $\hat{v}_{avg}$, using Equation 2H–19.

$$\hat{v}_{avg} = \frac{\sum_{i=1}^{n} \hat{v}_i}{n} \qquad \text{Eq. 2H-19}$$

12.7.3　Calculate the wall effects adjustment factor, *WAF,* using Equation 2H–20.

$$WAF = \frac{\hat{v}_{avg}}{v_{avg}} \qquad \text{Eq. 2H-20}$$

12.8　*Applying a Wall Effects Adjustment Factor.* A calculated wall effects adjustment factor may be used to adjust the average flue gas volumetric flow obtained using Methods 2, 2F, or 2G of Appendix A–1 and A–1 or

CEMS measurements to take into account velocity decay near the wall of stacks or ducts using Equation 2H–21a or 2H–21b.

$$Q_{adj} = v_{avg} \left(\overline{WAF} \times A \right) \qquad \text{Eq. 2H-21a}$$

$$Q_{adj_{std}} = v_{avg} \frac{T_{std}}{T_{avg}} \frac{P_{avg}}{P_{std}} \left(\overline{WAF} \times A \right) \qquad \text{Eq. 2H-21b}$$

The wall effects adjustment factor, $\overline{WAF}$, shown in Equation 2H–21a and 2H–21b, must be the arithmetic average of WAF values obtained during at least three wall effects test runs unless a stack or duct specific WAF default factor is calculated in accordance with Section 8.3.2. A $\overline{WAF}$ can only be applied when calculating volumetric flows based on velocity data from RATAs consisting of the same number (or fewer) of Method 1 of Appendix A–1 traverse points used to determine the $\overline{WAF}$ or from a CEMS for which such a RATA has been conducted. The $\overline{WAF}$ must be reassessed whenever the stack or ductwork is altered such that the flow profile is significantly changed.

12.9 *Corner Correction.* For rectangular duct measurement locations: A default value of $C_{c_{adj}} = 0.995$ may be used for any duct to account for the more intense viscous shear in the corner regions. Alternatively, calculate a duct specific $C_{c_{adj}}$ using Equation 2H–22:

$$C_{c_{adj}} = 1 - 0.25 \left[1 - \left(\frac{\log \frac{\varepsilon D_{eff}}{3.7}}{\log \frac{\varepsilon D_h}{3.7}} \right)^2 \right] \qquad \text{Eq. 2H-22}$$

Where:

D_h = hydraulic diameter, ft (m); 4 × cross-sectional area/perimeter

D_{eff} = effective diameter including corner impact; $D_{eff} = [64/(fRe)]D_h$

ε = average duct surface roughness, ft (m)

Calculate D_{eff}, using the value for friction constant, fRe, from the Table 1, interpolating as needed. The parameter b/a is the duct aspect ratio, where b represents the smaller of the two stack or duct dimensions.

TABLE 1—FRICTION CONSTANTS FOR RECTANGULAR DUCTS

b/a	f Re	b/a	f Re
0.00	96.00	0.25	72.93
0.05	89.91	0.40	65.47
0.10	84.68	0.50	62.19
0.125	82.34	0.75	57.89
0.167	78.81	1.00	56.91

Calculate the average stack or duct surface roughness, ε, based on the surface roughness values calculated for each test port location using the Equation 2H–23:

$$\varepsilon = e^{8.5(0.41)} \left(\frac{y_1}{12} \right)^{\frac{V_2}{V_2 - V_1}} \qquad \text{Eq. 2H-23}$$

Where:

V_1 = velocity measured at the closest available one-inch interval from the wall, ft/s (m/s)

V_2 = velocity measured at a distance of 12 in. (30 cm) from the wall, ft/s (m/s)

y_1 = distance of the closest available one-inch interval from the wall, in. (cm)

13.0 *Method Performance* [Reserved]

14.0 *Pollution Prevention* [Reserved]

15.0 *Waste Management* [Reserved]

16.0 *Reporting*

16.1 *Field Test Reports.* Field test reports shall be submitted to the Agency according to the applicable regulatory requirements. When this method is performed in conjunction with Method 2, 2F, or 2G of Appendix A–1 and A–2 to derive a wall effects adjustment factor, a single consolidated field test report should be prepared. At a minimum, the consolidated field test report should contain (1) all of the general information, and data for Method 1 of Appendix A–1 points, specified in Section 16.0 of Method 2F of Appendix A–1 (when this method is used in conjunction with Method 2F of Appendix A–1) or Section 16.0 of Method 2G of Appendix A–2 (when this method is used in conjunction with Method 2 or 2G of Appendix A–1 and A–2) and (2) the additional general information, and data for Method 1 of Appendix A–1 points and wall effects points, specified in this section (some of which are included in Section 16.0 of Methods 2F and 2G of Appendix A–1 and A–2 and are repeated in this section to ensure complete reporting for wall effects testing).

16.2 *Data for each run.* The following run values should also be included in the field test report.

(a) Average velocity for run, accounting for wall effects, $\hat{v}_{avg}$.

(b) Wall effects adjustment factor derived from a test run, WAF.

16.3 *Quality Assurance and Control.* Quality assurance and control procedures, specifically tailored to wall effects testing, should be described.

16.4 *Reporting a Default Wall Effects Adjustment Factor.* [Reserved]

17.0 *References*

17.1 *Impact of Viscous Shear Wall Effects on Flow Measurements in Rectangular Ducts,* EPRI, Palo Alto, CA: 2003. 10076649.

17.2 Norfleet, Stephen K. *CTM–041 and Potential Revisions to EPA Reference Method 2H,* 2005 EPRI CEMS Users Group Meeting, Savannah, Georgia, May 2005.

17.3 Norfleet, Stephen K. *Correcting Flow Measurements for Wall Effects in Rectangular Ducts and Stacks,* 2003 EPRI CEM Users Group Meeting, San Diego, California, May 2003.

17.4 White, Frank M. *Fluid Mechanics,* 2nd ed., McGraw-Hill, New York. 1986.

17.5 *EPA Flow Reference Method Testing and Analysis: Findings Report,* U.S. EPA, Acid Rain Division, EPA/430–R–99–009a, May 1999.

17.6 40 CFR Part 60, Appendix A–1, ''Method 1—Sample and Velocity Traverses for Stationary Sources.''

17.7 40 CFR Part 60, Appendix A–1, ''Method 2—Determination of Stack Gas Velocity and Volumetric Flow Rate (Type S Pitot Tube).''

17.8 40 CFR Part 60, Appendix A–1, ''Method 2F—Determination of Stack Gas Velocity and Volumetric Flow Rate with Three-Dimensional Probes.''

17.9 40 CFR Part 60, Appendix A–2, ''Method 2G—Determination of Stack Gas Velocity and Volumetric Flow Rate with Two-Dimensional Probes.''
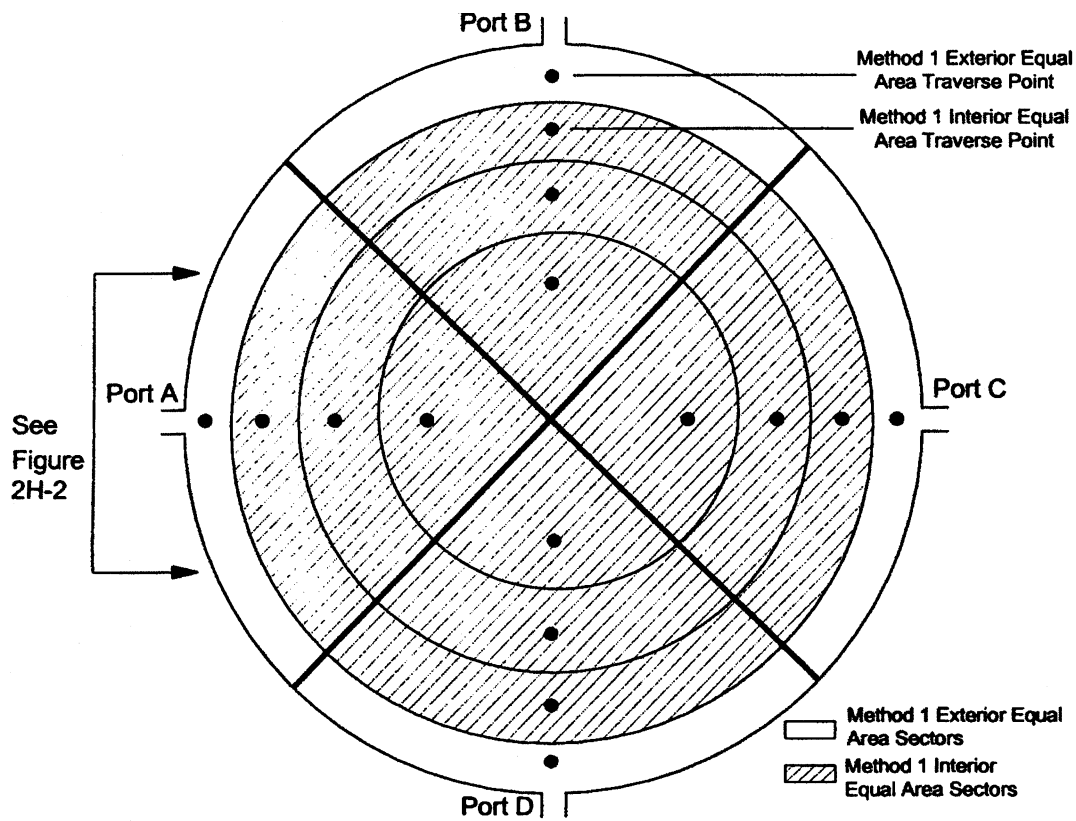
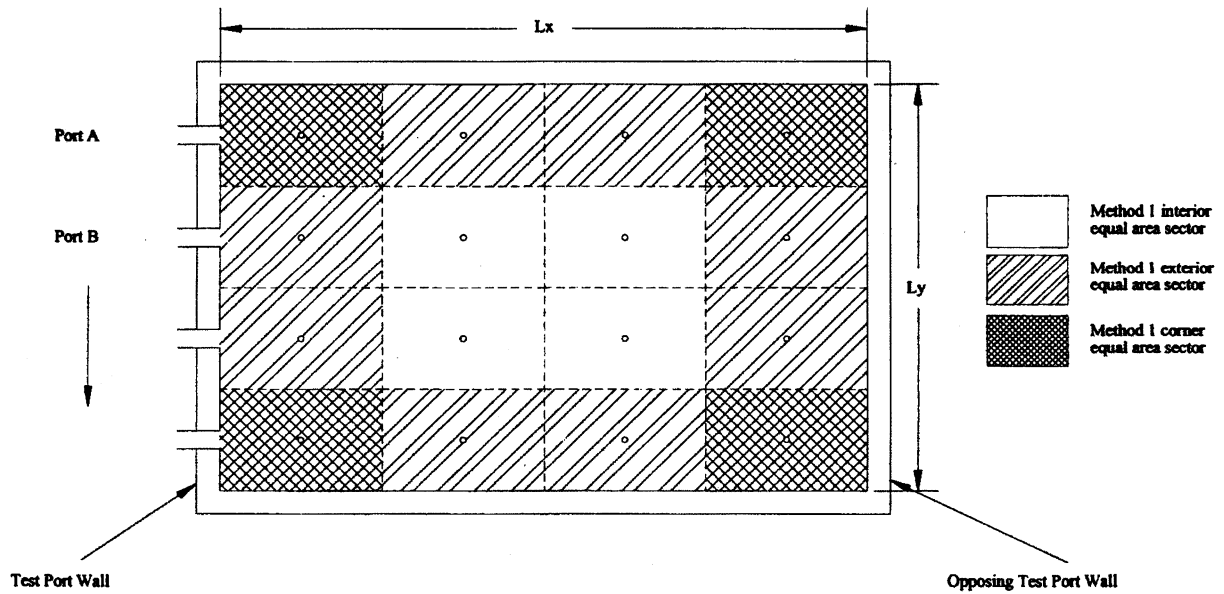**Figure 2H-1. Method 1 Circular Stack Equal Area Sectors**

Figure 2H-2. Method 1 Rectangular Duct Equal Area Sectors

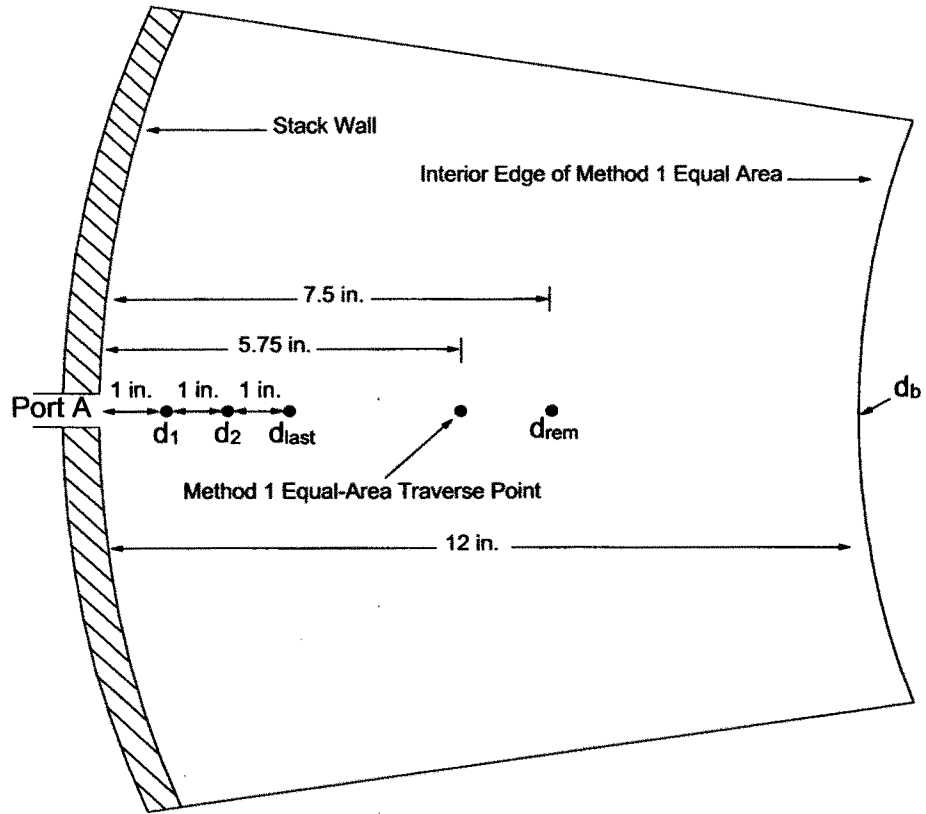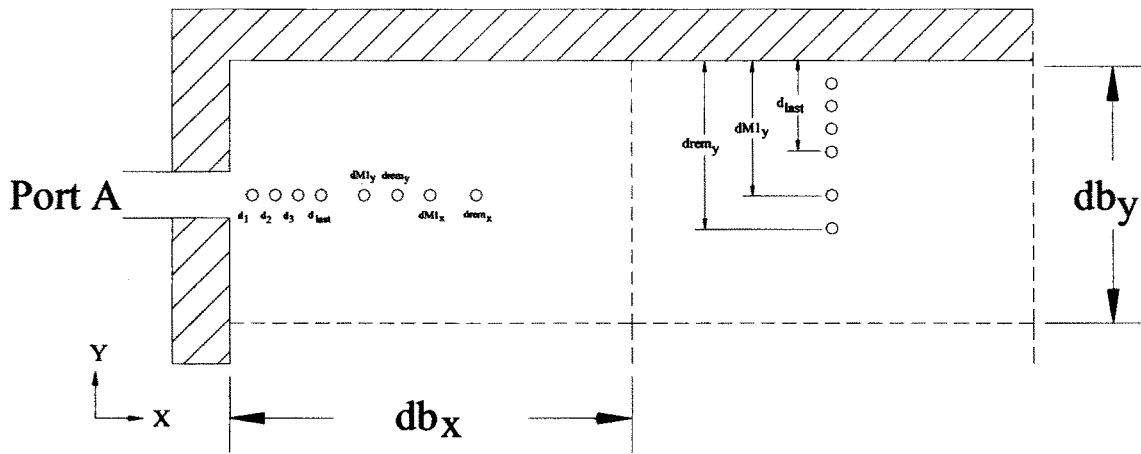**Figure 2H-3. Circular Stack Wall Effects Traverse Points**

Figure 2H-4. Rectangular Duct Wall Effects Traverse Points

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Office of the Secretary

42 CFR Part 3

RIN 0991–AB53

Patient Safety and Quality Improvement: Civil Money Penalty Inflation Adjustment

AGENCY: Office for Civil Rights, Office of the Secretary, HHS.

ACTION: Proposed rule.

SUMMARY: The Department of Health and Human Services is publishing this companion proposed rule to the direct final rule, published elsewhere in this issue of the **Federal Register**, which amends the Patient Safety and Quality Improvement Rule by adjusting for inflation the maximum civil money penalty amount for violations of the confidentiality provisions of the Rule. We are proposing to amend the penalty amount to comply with the Federal Civil Penalties Inflation Adjustment Act of 1990.

DATES: Submit written or electronic comments on this proposed rule by September 24, 2009. If significant adverse comment is received on this proposed rule or the direct final rule (discussed in the **SUPPLEMENTARY INFORMATION** section), OCR will publish a timely withdrawal of the direct final rule in the **Federal Register**.

ADDRESSES: Send comments to one of the following addresses. Please do not submit duplicate comments. We will treat a comment directed to either the direct final rule or proposed rule as being directed towards both, therefore there is no need to submit comments on both documents.

• *Federal eRulemaking Portal:* You may submit electronic comments at *http://www.regulations.gov.* Follow the instructions for submitting electronic comments. Attachments should be in Microsoft Word, WordPerfect, or Excel; however, we prefer Microsoft Word.

• *Regular, Express, or Overnight Mail:* You may mail written comments (one original and two copies) to the following address only: U.S. Department of Health and Human Services, Office for Civil Rights, *Attention:* PSQIA CMP Adjustment (RIN 0991–AB53), Hubert H. Humphrey Building, Room 509F, 200 Independence Avenue, SW., Washington, DC 20201. Mailed

comments may be subject to delivery delays due to security procedures. Please allow sufficient time for mailed comments to be timely received in the event of delivery delays.

• *Hand Delivery or Courier:* If you prefer, you may deliver (by hand or courier) your written comments (one original and two copies) to the following address only: Office for Civil Rights, *Attention:* PSQIA CMP Adjustment (RIN 0991–AB53), Hubert H. Humphrey Building, Room 509F, 200 Independence Avenue, SW., Washington, DC 20201. (Because access to the interior of the Hubert H. Humphrey Building is not readily available to persons without Federal government identification, commenters are encouraged to leave their comments in the mail drop slots located in the main lobby of the building.)

Inspection of Public Comments: All comments received before the close of the comment period will be available for public inspection, including any personally identifiable or confidential business information that is included in a comment. We will post all comments received before the close of the comment period at *http://www.regulations.gov.*

FOR FURTHER INFORMATION CONTACT: Andra Wicks, 202–205–2292.

SUPPLEMENTARY INFORMATION:

I. Use of a Direct Final Rule

The Department has chosen to concurrently issue this proposed rule as a direct final rule because we do not expect to receive any significant adverse comment on the rule. A direct final rule is a rule that provides an opportunity for comment and then automatically becomes effective on a later date if no significant adverse comments are received. We do not anticipate significant adverse comments because this rule's amendment is required by the Federal Civil Penalties Inflation Adjustment Act of 1990 (28 U.S.C. 2461 note, as amended by the Debt Collection Improvement Act of 1996 (31 U.S.C. 3701)) (Inflation Adjustment Act), and the Department has no discretion in how it calculates the adjustment.

We are providing a 30-day comment period for both this proposed rule and the direct final rule. If no significant adverse comments are received, we will take no further action on this proposed rule and the direct final rule will become effective 60 days later. If we do not receive any significant adverse comments in response to the direct final rule or this proposed rule, the direct final rule will become effective on the date set forth in the **DATES** section of that

rule. If we receive significant adverse comments on this proposed rule or the direct final rule, we will publish a document withdrawing the direct final rule in the **Federal Register** prior to that date.

If we withdraw the direct final rule based on the receipt of any significant adverse comments, we will publish a final rule based on this proposed rule and any comments to the proposed or direct final rule.

The Department will not provide additional opportunity for comment.

II. Background

The Patient Safety and Quality and Improvement Act of 2005 (Patient Safety Act), 42 U.S.C. 299b–21 to 299b–26, amended Title IX of the Public Health Service Act, 42 U.S.C. 299 *et seq.,* the authorizing statute for the Agency for Healthcare Research and Quality. The Patient Safety Act creates a voluntary program through which health care providers can share information related to patient safety events and concerns (known as patient safety work product (PSWP)) with patient safety organizations (PSOs) for the purpose of improving patient safety and the quality of care nationwide. The Patient Safety Act requires the Department of Health and Human Services (''HHS'' or ''the Department'') to maintain a listing of PSOs. The Patient Safety Act provides that PSWP is both privileged and confidential. While participation in the patient safety program is voluntary, a violation of the Patient Safety Act's confidentiality requirements is subject to a civil money penalty (CMP) of up to $10,000. 42 U.S.C. 299b–22(f).

On November 21, 2008, the Department promulgated regulations to implement the Patient Safety Act. 73 FR 70732, Nov. 21, 2008, adding 42 CFR part 3. The regulations provide for the listing and delisting of PSOs, the confidentiality and privilege protections of PSWP, and procedures for enforcement against violations of the regulations' confidentiality requirements. In particular, under § 3.404, a person who discloses identifiable PSWP in knowing or reckless violation of the Patient Safety Act and 42 CFR part 3 shall be subject to a CMP of not more than $10,000 for each act constituting a violation.

The Agency for Healthcare Research and Quality administers the provisions of the regulations relating to PSOs. The Office for Civil Rights investigates and enforces compliance with the confidentiality provisions and, if warranted, may assess CMPs for knowing or reckless violations of confidentiality.