

Regulatory Analysis Form

(Completed by Promulgating Agency)
(All Comments submitted on this regulation will appear on IRRC's website)

INDEPENDENT REGULATORY REVIEW COMMISSION

(1) Agency:
Environmental Protection.

(2) Agency Number:
Identification Number: 7-477

IRRC Number: 2955

(3) PA Code Cite:
25 Pa. Code Chapters 121 and 139.

(4) Short Title:
Measurement and Reporting Of Condensable Particulate Matter Emissions

(5) Agency Contacts (List Telephone Number and Email Address):

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(6) Type of Rulemaking

(check applicable box):

Proposed Regulation

Final Regulation

Final Omitted Regulation

Emergency Certification Regulation;

Certification by the Governor

Certification by the Attorney General

(7) Briefly explain the regulation in clear and nontechnical language. (100 words or less)

The final rulemaking amends Chapter 139 (relating to sampling and testing) to update and clarify the applicability of sampling and testing methods used to demonstrate compliance with certain particulate matter (PM) emission standards and limitations. The change to § 139.12 (relating to emissions of particulate matter) designates the existing language as subsection (a) and explains the process used for determining compliance with filterable PM emission limits. The amendment under § 139.12(b) clarifies when certain owners or operators of a stationary source shall demonstrate compliance with filterable and condensable PM-10 and PM_{2.5} emission standards. The amendment under § 139.12(c) clarifies when compliance with a particulate matter, PM-10 OR PM_{2.5} emission limitation must include condensable particulate matter. The amendment under § 139.12(d) explains the compliance demonstration process for persons subject to either § 139.12(b) or (c). The § 139.12(e) amendment has been added to address IRRC's request for a cross reference to § 139.5 (relating to revisions to the source testing manual and the continuous source monitoring manual). Finally, the change under § 139.53 (relating to filing monitoring reports) clarifies where monitoring reports must be filed. The final rulemaking amends § 121.1 (relating to definitions) to add definitions for the terms "condensable particulate matter" and "filterable particulate matter" to support the amendments to Chapter 139.

If published in the *Pennsylvania Bulletin* as a final rulemaking, the final-form regulation will be submitted to the United States Environmental Protection Agency (EPA) as a revision to the State Implementation Plan (SIP) in 40 CFR 52.2020 (relating to identification of plan).

(8) State the statutory authority for the regulation. Include specific statutory citation.

The final rulemaking is authorized under section 5(a)(1) of the Air Pollution Control Act (APCA) (35 P.S. § 4005(a)(1)), which grants the Board the authority to adopt rules and regulations for the prevention, control, reduction and abatement of air pollution in this Commonwealth and section 5(a)(8) of the APCA (35 P.S. § 4005(a)(8)), which grants the Board the authority to adopt rules and regulations designed to implement the provisions of the Clean Air Act (CAA) (42 U.S.C.A. §§ 7401—7671q).

(9) Is the regulation mandated by any federal or state law or court order, or federal regulation? Are there any relevant state or federal court decisions? If yes, cite the specific law, case or regulation, as well as any deadlines for action.

Yes, companion Federal regulations were set forth at 73 FR 28321 (May 16, 2008) and 75 FR 80118 (December 21, 2010). This final-form rulemaking is not more stringent than the Federal requirements set forth at 73 FR 28321 and 75 FR 80118. The final rulemaking updates § 139.12 to clarify implementation of the revisions promulgated by the EPA at 75 FR 80118 (December 21, 2010) to its Test Method 201A for measuring filterable particulate matter less than or equal to 10 micrometers in diameter (PM-10) and its Test Method 202 for measuring condensable PM emissions from stationary sources. The revisions to EPA's Method 201A improve the measurement of PM to include sampling of emissions of fine particles with diameters less than or equal to 2.5 micrometers in size (PM_{2.5}) in addition to PM-10. The revisions to EPA's Method 202 increase the precision and improve the consistency of the method for measuring condensable PM. The Department incorporates these methods, and revisions to these methods, in the Department's *Source Testing Manual* by reference under § 139.4(5) (relating to references).

(10) State why the regulation is needed. Explain the compelling public interest that justifies the regulation. Describe who will benefit from the regulation. Quantify the benefits as completely as possible and approximate the number of people who will benefit.

PM is the term for a mixture of solid particles and liquid droplets found in the air. Some particles, such as dust, dirt, soot or smoke, are large or dark enough to be seen with the naked eye; others are so small they can only be detected using an electron microscope. PM includes "inhalable coarse particles," with diameters larger than 2.5 micrometers and smaller than 10 micrometers (PM-10) and "fine particles," with diameters that are 2.5 micrometers and smaller (PM_{2.5}). PM_{2.5} is associated with a number of serious health effects, including premature mortality, aggravation of respiratory and cardiovascular disease (as indicated by increased hospital admissions, emergency room visits, absences from school or work, and restricted activity days), lung disease, decreased lung function, asthma attacks and certain cardiovascular problems such as heart attacks and cardiac arrhythmia. See 70 FR 944 (January 5, 2005); 72 FR 20586 (April 25, 2007).

The EPA established the PM National Ambient Air Quality Standard (NAAQS) at 36 FR 8186 on April 30, 1971. The test method specified for determining attainment of the original standards was the high volume sampler, which collects filterable PM up to a nominal size of 25 to 45 micrograms. See 75 FR 80118, 80120 (December 21, 2010).

On September 11, 1971, the Department of Environmental Resources, the predecessor agency to the Department of Environmental Protection (Department), initially promulgated PM emission standards for combustion units, incinerators, and processes under §§ 123.11—123.13 (relating to combustion units; incinerators; and processes). See 1 Pa.B. 1804. Then on March 20, 1972, test methods for determining emissions of PM were promulgated under § 139.12. See 2 Pa.B. 383. These methods included the use

of both dry filters and wet impingers to test for filterable and condensable PM.

On December 27, 1997, the Department deleted the requirement to use wet impingers to test for PM because that provision was more stringent than the applicable Federal requirement and provided little environmental benefit. See 27 Pa.B. 6804. Under this change, the owners and operators of stationary sources subject to the PM requirements of §§ 123.11—123.13 are required to test for compliance with filterable PM emission standards only.

On July 18, 1997, the EPA revised the PM NAAQS to add a new standard for fine particles, using PM_{2.5} as the indicator. The EPA set the health-based (primary) and welfare-based (secondary) PM_{2.5} annual standard at a level of 15 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) and the 24-hour standard at a level of 65 $\mu\text{g}/\text{m}^3$ at 62 FR 38652. The health-based primary standard is designed to protect human health from elevated levels of PM_{2.5}. The secondary standard is designed to protect against major environmental effects of PM_{2.5} such as visibility impairment, soiling and materials damage.

Subsequently, at 71 FR 61236, the EPA lowered the primary and secondary 24-hour NAAQS for PM_{2.5} to 35 $\mu\text{g}/\text{m}^3$ from 65 $\mu\text{g}/\text{m}^3$ (October 17, 2006). The following counties or portions thereof have been designated by the EPA as nonattainment for the 2006 fine particulate matter 24-hour NAAQS: Allegheny (partial), Armstrong (partial), Beaver, Bucks, Butler, Cambria, Chester, Cumberland, Dauphin, Delaware, Greene (partial), Indiana (partial), Lancaster, Lawrence (partial), Lebanon, Lehigh, Montgomery, Northampton, Philadelphia, Pittsburgh/Liberty-Clairton (partial), Washington, Westmoreland and York. See 74 FR 58688, 58758 (November 13, 2009).

Section 110 of the CAA (42 U.S.C.A. § 7410) requires State and local air pollution control agencies to develop, and submit to the EPA for approval, SIPs that provide for the attainment, maintenance and enforcement of the NAAQS in each air quality control region (or portion thereof) within each State. The emissions inventories and analyses used in the State's attainment demonstrations must consider PM-10 and PM_{2.5} emissions from stationary sources that are significant contributors of PM-10 and PM_{2.5} emissions.

Federal regulations define primary PM-10 and PM_{2.5} as including both the filterable and condensable fractions of PM. See 40 CFR 51.50 (relating to what definitions apply to this subpart?). Filterable PM consists of those particles that are directly emitted by a source as a solid or liquid at the stack (or similar release conditions) and captured on the filter of a stack test train. Condensable PM is the material that is in vapor phase at stack conditions but condenses or reacts, or both, upon cooling and dilution in the ambient air to form solid or liquid PM immediately after discharge from the stack. The Commonwealth defines PM-10 and PM_{2.5} in a similar manner as measured by the applicable reference method or equivalent method. See § 121.1.

The EPA promulgated revisions to its test methods for measuring filterable PM-10 and PM_{2.5} and for measuring condensable PM emissions from stationary sources at 75 FR 80118. The final amendments to Method 201A add a particle-sizing device to allow for sampling of PM_{2.5}. The final amendments to Method 202 revise the sample collection and recovery procedures of the method to reduce the formation of reaction artifacts that could lead to inaccurate measurements of condensable PM. The Department incorporates these methods, and revisions to these methods, in the Department's *Source Testing Manual* by reference under § 139.4(5).

<http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-50355/274-0300-002.pdf>

The final rulemaking is reasonably necessary to attain and maintain the 1997 annual and 2006 24-hour PM_{2.5} NAAQS and to satisfy related CAA requirements. The final rulemaking accounts for emissions of condensable PM, which contribute to the formation of PM_{2.5} in the atmosphere. Because condensable emissions exist almost entirely in the 2.5 micrometer range and smaller, and epidemiological studies have shown a significant correlation between elevated PM_{2.5} levels and premature death, aggravation of heart and lung disease and asthma attacks, attaining and maintaining the PM_{2.5} NAAQS is inherently more significant to the management of public health and welfare effects than attaining and maintaining prior PM NAAQS addressing larger particles. Therefore, it is important that the Commonwealth's air quality management of PM_{2.5} promote a comprehensive and inclusive approach to measuring condensable PM emissions. Improved data will support development of better control strategies to reduce emissions of condensable PM and improve public health and welfare in areas that are designated as nonattainment for PM_{2.5}.

(11) If data is the basis for this regulation, please provide a description of the data, explain in detail how the data was obtained, and how it meets the acceptability standard for empirical, replicable and testable data that is supported by documentation, statistics, reports, studies or research. Please submit data or supporting materials with the regulatory package. If the material exceeds 50 pages, please provide it in a searchable electronic format or provide a list of citations and internet links that, where possible, can be accessed in a searchable format in lieu of the actual material. If other data was considered but not used, please explain why that data was determined not to be acceptable.

Data is not the basis for this regulation. This final rulemaking is an update and clarification of existing requirements to which source owners and operator are already subject. No data was generated or considered for this regulation.

(12) Describe who and how many people will be adversely affected by the regulation. How are they affected?

The final rulemaking does not impose new or additional requirements or compliance costs on the owners and operators of existing stationary sources. The final rulemaking updates and clarifies the applicability of certain PM testing requirements in Chapter 139 regarding emissions of filterable and condensable PM to which the owners and operators of certain stationary sources are already subject. The final rulemaking updates Chapter 139 to include the revisions to EPA Test Method 201A for measuring filterable PM-10 and Test Method 202 for measuring condensable PM emissions from stationary sources promulgated at 75 FR 80118. The Department incorporates these test methods, and revisions to these methods, in the Department's *Source Testing Manual* by reference at § 139.4(5).

Under § 139.12(a), the owner and operator of a stationary source subject to PM emission standards set forth in §§ 123.11—123.13 is required to test only for filterable PM as provided in paragraphs (1)—(5) of this subsection. These owners and operators are not subject to the filterable and condensable PM test requirements under proposed subsections (b)—(d).

Under § 139.12(b), the owner or operator of a stationary source that is subject to PM-10 and PM_{2.5} emission limitations shall demonstrate compliance with those limitations by including both filterable and condensable PM. This subsection also clarifies that the owner and operator of a stationary source subject to applicability determinations under Chapter 127, Subchapters D and E (relating to prevention of significant deterioration of air quality; and new source review) shall demonstrate compliance for filterable and condensable PM-10 and PM_{2.5} emissions.

Under § 139.12(c), the owner or operator of a stationary source subject to a PM, PM-10 or PM_{2.5} emission limitation issued by the Department prior to January 1, 2011, will not include condensable PM in the compliance demonstration unless required by the terms of a plan approval, operating permit or the SIP.

Under § 139.12(d), the owner and operator of a stationary source subject to subsection (b) or (c) shall demonstrate compliance through the measurement and reporting of filterable and condensable PM using test methods and procedures equivalent to those specified in § 139.4(5).

Under § 139.12(e), a cross reference to § 139.5 is provided to clarify how the Department revised the Source Testing Manual.

(13) List the persons, groups or entities that will be required to comply with the regulation. Approximate the number of people who will be required to comply.

Source owners and operators that are required to test for PM to demonstrate compliance with the PM emission standards of §§ 123.11—123.13, with emission limitations for PM-10 and PM_{2.5} or with applicability determinations required under 25 Pa. Code Chapter 127, Subchapters D and E are subject to the PM testing requirements of the final rulemaking. This final rulemaking updates and clarifies the applicability of PM testing requirements to which the owners and operators of these sources are already subject. It does not add new testing requirements. The final rulemaking does not impose new or additional requirements or compliance costs on these owners and operators.

(14) Provide a specific estimate of the costs and/or savings to the **regulated community** associated with compliance, including any legal, accounting or consulting procedures which may be required. Explain how the dollar estimates were derived.

The final rulemaking updates and clarifies the applicability of certain testing and reporting requirements to which the owners and operators of certain stationary sources are already subject and does not impose additional compliance costs on these owners and operators.

(15) Provide a specific estimate of the costs and/or savings to **local governments** associated with compliance, including any legal, accounting or consulting procedures which may be required. Explain how the dollar estimates were derived.

The final rulemaking does not generally apply to local governments. However, local municipalities which own or operate landfills or municipal waste combustors would already be subject to the final-form requirements with no additional costs or savings.

(16) Provide a specific estimate of the costs and/or savings to **state government** associated with the implementation of the regulation, including any legal, accounting, or consulting procedures which may be required. Explain how the dollar estimates were derived.

The final rulemaking does not increase costs to the Commonwealth because it only updates and clarifies the applicability of certain testing and reporting requirements for PM which are required under Federal standards. No new staff resources are necessary to implement the final rulemaking.

(17) In the table below, provide an estimate of the fiscal savings and costs associated with implementation and compliance for the regulated community, local government, and state government for the current year and five subsequent years.

	Current FY Year 13/14	FY +1 Year 14/15	FY +2 Year 15/16	FY +3 Year 16/17	FY +4 Year 17/18	FY +5 Year 18/19
SAVINGS:	\$	\$	\$	\$	\$	\$
Regulated Community	0.00	0.00	0.00	0.00	0.00	0.00
Local Government	0.00	0.00	0.00	0.00	0.00	0.00
State Government	0.00	0.00	0.00	0.00	0.00	0.00
Total Savings	0.00	0.00	0.00	0.00	0.00	0.00
COSTS:	\$	\$	\$	\$	\$	\$
Regulated Community	0.00	0.00	0.00	0.00	0.00	0.00
Local Government	0.00	0.00	0.00	0.00	0.00	0.00
State Government	0.00	0.00	0.00	0.00	0.00	0.00
Total Costs	0.00	0.00	0.00	0.00	0.00	0.00
REVENUE LOSSES:	\$	\$	\$	\$	\$	\$
Regulated Community	0.00	0.00	0.00	0.00	0.00	0.00
Local Government	0.00	0.00	0.00	0.00	0.00	0.00
State Government	0.00	0.00	0.00	0.00	0.00	0.00
Total Revenue Losses	0.00	0.00	0.00	0.00	0.00	0.00

(17a) Provide the past three year expenditure history for programs affected by the regulation.

Program	FY-3 (10/11)	FY-2 (11/12)	FY-1 (12/13)	Current FY (13/14)
Environmental Program Management (161-10382)	\$28,881,000	\$27,755,000	\$23,663,000	\$26,297,000
Clean Air Fund Major Emission Facilities (215-20077)	\$20,565,000	\$20,055,000	\$17,545,000	\$21,330,000
Clean Air Fund Mobile and Area Facilities (233-20084)	\$5,620,000	\$2,710,000	\$7,420,000	\$8,610,000

(18) Explain how the benefits of the regulation outweigh any cost and adverse effects.

The final rulemaking clarifies the accounting for emissions of condensable PM, which contribute to the

formation of PM_{2.5} in the atmosphere. Because condensable emissions exist almost entirely in the 2.5 micrometer range and smaller, and epidemiological studies have shown a significant correlation between elevated PM_{2.5} levels and premature death, aggravation of heart and lung disease and asthma attacks, attaining and maintaining the PM_{2.5} NAAQS is inherently more significant to the management of public health and welfare than attaining and maintaining prior PM NAAQS addressing larger particles. Therefore, it is important that the Commonwealth's air quality management of PM_{2.5} promote a comprehensive and inclusive approach to measuring condensable PM emissions. Improved data will support development of better control strategies to reduce emissions of condensable PM and improve public health and welfare in areas that are designated as nonattainment for PM_{2.5}.

The final rulemaking is reasonably necessary to attain and maintain the health-based annual and 24-hour PM_{2.5} NAAQS in this Commonwealth.

(19) Describe the communications with and input from the public and any advisory council/group in the development and drafting of the regulation. List the specific persons and/or groups who were involved.

The Department discussed the draft final rulemaking with the Air Quality Technical Advisory Committee (AQTAC) at its February 14, 2013, meeting. AQTAC voted 11-4-2 to concur with the Department's recommendation to forward the final rulemaking to the Board. The Department discussed the draft final rulemaking with the Citizens Advisory Council (CAC) Policy and Regulatory Oversight Committee (Committee) on February 6, 2013. On the recommendation of the Committee, the CAC voted at its February 19, 2013, meeting to concur with the Department's recommendation to forward the final rulemaking to the Board.

(20) Include a description of any alternative regulatory provisions which have been considered and rejected and a statement that the least burdensome acceptable alternative has been selected.

This final-form rulemaking harmonizes Federal and State requirements. No alternative regulatory provisions were considered.

(21) Are there any provisions that are more stringent than federal standards? If yes, identify the specific provisions and the compelling Pennsylvania interest that demands stronger regulations.

No.

(22) How does this regulation compare with those of other states? How will this affect Pennsylvania's ability to compete with other states?

Because this final rulemaking harmonizes Federal and State requirements and updates and clarifies the applicability of certain testing and reporting requirements to which the owners and operators of certain stationary sources are already subject, the final rulemaking does not impose new or additional requirements or compliance costs on these owners and operators. Therefore, the final rulemaking is not expected to affect Pennsylvania's ability to compete with other states.

(23) Will the regulation affect any other regulations of the promulgating agency or other state agencies? If yes, explain and provide specific citations.

No.

(24) Submit a statement of legal, accounting or consulting procedures and additional reporting, recordkeeping or other paperwork, including copies of forms or reports, which will be required for implementation of the regulation and an explanation of measures which have been taken to minimize these requirements.

Because this final rulemaking updates and clarifies the applicability of certain testing and reporting requirements to which the owners and operators of certain stationary sources are already subject, the final rulemaking does not impose additional reporting or recordkeeping requirements on these owners and operators.

(25) Please list any special provisions which have been developed to meet the particular needs of affected groups or persons including, but not limited to, minorities, elderly, small businesses, and farmers.

No special provisions are needed.

(26) Include a schedule for review of the regulation including:

- A. The date by which the agency must receive public comments: September 10, 2012
- B. The date or dates on which public meetings or hearings will be held: August 7, 9, and 10, 2012
- C. The expected date of promulgation of the proposed regulation as a final-form regulation: 1st Quarter 2014
- D. The expected effective date of the final-form regulation: Upon final-form publication in the Pennsylvania Bulletin
- E. The date by which compliance with the final-form regulation will be required: Upon final-form publication in the Pennsylvania Bulletin
- F. The date by which required permits, licenses or other approvals must be obtained: N/A

(27) Provide the schedule for continual review of the regulation.

This regulation will be reviewed in accordance with the sunset review schedule published by the Department to determine whether the regulation effectively fulfills the goals for which it was intended.