

Document: IC 13-14-9 Notice, **Register Page Number:** 27 IR 1301

Source: January 1, 2004, Indiana Register, Volume 27, Number 4

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TITLE 326 AIR POLLUTION CONTROL BOARD

SECOND NOTICE OF COMMENT PERIOD

#03-228(APCB)

DEVELOPMENT OF AMENDMENTS TO AND NEW RULES CONCERNING THE DEFINITION OF PARTICULATE MATTER AND AMBIENT AIR QUALITY STANDARDS

PURPOSE OF NOTICE

The Indiana Department of Environmental Management (IDEM) is soliciting public comment on amendments to rules 326 IAC 1-2-52 concerning the definition of particulate matter and 326 IAC 1-3-4 concerning ambient air quality standards. This rulemaking proposes to add ambient air quality standards for PM_{2.5} and a revised PM₁₀ standard to state rules, and add new rules concerning definitions for PM_{2.5}, PM₁₀, particulate matter emissions, PM₁₀ emissions, and total suspended particulate (TSP). IDEM seeks comment on the affected citations listed and any other provisions of Title 326 that may be affected by this rulemaking.

HISTORY

First Notice of Comment Period: September 1, 2003, Indiana Register (26 IR 3961).

CITATIONS AFFECTED: 326 IAC 1-2; 326 IAC 1-2-52; 326 IAC 1-2-52.1; 326 IAC 1-2-52.2; 326 IAC 1-2-52.3; 326 IAC 1-2-52.4; 326 IAC 1-2-52.5; 326 IAC 1-2-82.2; 326 IAC 1-2-82.4; 326 IAC 1-3-4.

AUTHORITY: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11.

SUBJECT MATTER AND BASIC PURPOSE OF RULEMAKING

Basic Purpose and Background

On July 18, 1997, U.S. EPA announced revisions to the national ambient air quality standards (NAAQS) for particulate matter (PM) (67 FR 38651). The new annual standard for PM_{2.5} is fifteen (15) micrograms/cubic meter (ug/m³) and the new twenty-four (24) hour standard established sixty-five (65) micrograms/cubic meter (65 ug/m³). States must make recommendations to U.S. EPA by February 15, 2004, regarding the designation of areas as attainment or nonattainment with the PM_{2.5} national ambient air quality standard. U.S. EPA will promulgate the designations by December 2004.

The PM_{2.5} standards focus on microscopic soot and dust particles that can penetrate deep into the lungs. PM_{2.5} is PM with an aerodynamic diameter less than or equal to two and five-tenths (2.5) micrometers. Studies have demonstrated that inhaled PM affects health and that the smaller the size of the PM the greater the health impact. Currently the indicators used to regulate PM are PM₁₀ (PM with an aerodynamic diameter less than or equal to ten (10) micrometers) and PM_{2.5}. U.S. EPA refers to PM₁₀ as PM coarse and PM_{2.5} as PM fine.

Indiana rules define “particulate matter”, “PM₁₀”, and “total suspended particulate”. The current state definition of “particulate matter” is a composite of several federal definitions and is not entirely consistent.

This rulemaking will add a definition of PM_{2.5} to state rules; add the new PM_{2.5} standards and the revised PM₁₀ standard to state rules; clarify the existing definition of particulate matter at 326 IAC 1-2-52; provide separate definitions for “PM₁₀”, “PM_{2.5}”, and “TSP” and add the federal definitions of “particulate emissions” and “PM₁₀ emissions” to state rules. The rule, upon promulgation as a final rule, will be submitted to U.S. EPA as a revision to the SIP.

IC 13-14-9-4 Identification of Restrictions and Requirements Not Imposed Under Federal Law

No element of the draft rule imposes either a restriction or a requirement on persons to whom the draft rule applies that is not imposed under federal law.

Indiana’s air rules need to be updated to reflect the new federal standards for PM_{2.5}. If Indiana does not update the standards, Indiana will not be able to implement the federal standards. This update includes adding the new PM_{2.5} standards and the revised PM₁₀ standard as well as the definition for PM_{2.5}. Adding the new PM_{2.5} standard may require clarification of existing PM, PM₁₀, and TSP standards.

Potential Fiscal Impact

There are no direct costs associated with this rulemaking. However, there will be costs associated with PM_{2.5} implementation measures. Those are indeterminate costs at this time. There should be a decrease in health costs once the state meets the new standards.

Public Participation and Work Group Information

At this time, no work group is planned for the rulemaking. If you feel that a work group or other informal discussion on the rule is necessary, please contact Gayl Killough, Rule Development Section, Office of Air Quality at (317) 233-8628 or (800) 451-6021 (in Indiana).

SUMMARY/RESPONSE TO COMMENTS FROM THE FIRST COMMENT PERIOD

IDEM requested public comment from September 1, 2003, through October 1, 2003, on alternative ways to achieve the purpose of the rule and suggestions for the development of draft rule language. IDEM received comments from the following parties by the comment period deadline:

National Starch, (NS)

Following is a summary of the comment received and IDEM's response:

Comment: Implementing the PM_{2.5} standards will be complicated. We recommend a work group to further discuss implementation of the PM_{2.5} standards. (NS)

Response: The purpose of this rulemaking is to add the new and revised particulate matter national ambient air quality standards to state rules, the federal definitions of particulate emissions and PM₁₀ emissions to state rules and to clarify the existing definition of particulate matter at 326 IAC 1-2-52 to provide consistency with federal definitions. Implementation of the new standards is an effort separate from adding the federal standards and definitions to state rules. Upon further discussion with the commenter, a work group that is already in place, the Central Indiana Air Quality Workgroup, is sufficient to meet the commenter's request for a work group to address implementation issues that may arise. No work group for this particular rulemaking is planned at this time. To join the Central Indiana Air Quality Workgroup, contact Laurence Brown, Planning and Policy Section, Office of Air Quality, (317) 234-3097 or (800) 451-6027 (in Indiana).

REQUEST FOR PUBLIC COMMENTS

This notice requests the submission of comments on the draft rule language, including suggestions for specific revisions to language to be contained in the draft rule. Mailed comments should be addressed to:

#03-228(APCB) Particulate Matter

Gayl Killough

c/o Rules Section Administrative Assistant

Rule Development Section

Office of Air Quality

Indiana Department of Environmental Management

P.O. Box 6015

Indianapolis, Indiana 46206-6015.

Hand delivered comments will be accepted by the IDEM receptionist on duty at the 10th floor reception desk, Office of Air Quality, Indiana Government Center-North, 100 North Senate Avenue, Indianapolis, Indiana.

Comments may be submitted by facsimile at the IDEM fax number: (317) 233-2342, Monday through Friday, between 8:15 a.m. and 4:45 p.m. Please confirm the timely receipt of faxed comments by calling the Rule Development Section at (317) 233-0426.

COMMENT PERIOD DEADLINE

Comments must be postmarked, faxed, or hand delivered by February 2, 2004.

Additional information regarding this action may be obtained from Gayl Killough, Rule Development Section, Office of Air Quality, (317) 233-8628 or (800) 451-6027 (in Indiana).

DRAFT RULE

SECTION 1. 326 IAC 1-2-52 IS AMENDED TO READ AS FOLLOWS:

326 IAC 1-2-52 "Particulate matter" definition

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-15; IC 13-17

Sec. 52. **“Particulate matter”** means any airborne finely divided solid or liquid material, excluding uncombined water, with an aerodynamic diameter smaller than one hundred (100) micrometers (μm):

(1) PM_{10} : Any particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers μm as measured by an applicable reference method specified in 40 CFR Part 50 or by an equivalent or alternative method approved by the commissioner.

(2) Total suspended particulate (TSP): Any particulate matter as measured by the method described in Appendix B of 40 CFR Part 50.

(Air Pollution Control Board; 326 IAC 1-2-52; filed Mar 10, 1988, 1:20 p.m.: 11 IR 2374; filed Apr 13, 1988, 3:35 p.m.: 11 IR 3020)

SECTION 2. 326 IAC 1-2-52.1 IS ADDED TO READ AS FOLLOWS:

326 IAC 1-2-52.1 “Particulate matter emissions” definition

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-15; IC 13-17

Sec. 52.1. **“Particulate matter emissions”** means any airborne finely divided solid or liquid material, excluding uncombined water as determined by any of the following applicable methods:

(1) A reference method or procedure specified in 40 CFR 50* and designated in accordance with 40 CFR 53*.

(2) An equivalent method designated in accordance with 40 CFR 53*.

(3) A reference method specified in 40 CFR 60*.

(4) A reference method specified in 40 CFR 51*.

*These documents are incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center-North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204. (Air Pollution Control Board; 326 IAC 1-2-52.1)

SECTION 3. 326 IAC 1-2-52.4 IS ADDED TO READ AS FOLLOWS:

326 IAC 1-2-52.4 “ $\text{PM}_{2.5}$ ” definition

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-15; IC 13-17

Sec. 52.4. **“ $\text{PM}_{2.5}$ ”** means particulate matter with an aerodynamic diameter less than or equal to a nominal two and five-tenths (2.5) micrometers (μm). (Air Pollution Control Board; 326 IAC 1-2-52.4)

SECTION 4. 326 IAC 1-2-52.5 IS ADDED TO READ AS FOLLOWS:

326 IAC 1-2-52.5 “ $\text{PM}_{2.5}$ emissions” definition

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-15; IC 13-17

Sec. 52.5. **“ $\text{PM}_{2.5}$ emissions”** means particulate matter with an aerodynamic diameter less than or equal to a nominal two and five-tenths (2.5) micrometers (μm) as measured by either of the following:

(1) A reference method based on 40 CFR 50, Appendix L, and designated in accordance with 40 CFR 53*.

(2) An equivalent method designated in accordance with 40 CFR 53*.

*These documents are incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center-North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204. (Air Pollution Control Board; 326 IAC 1-2-52.5)

SECTION 5. 326 IAC 1-2-52.6 IS ADDED TO READ AS FOLLOWS:

326 IAC 1-2-52.6 “PM₁₀” definition

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-15; IC 13-17

Sec. 52.6. “PM₁₀” means particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers (µm). (*Air Pollution Control Board; 326 IAC 1-2-52.6*)

SECTION 6. 326 IAC 1-2-52.7 IS ADDED TO READ AS FOLLOWS:

326 IAC 1-2-52.7 “PM₁₀ emissions” definition

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-15; IC 13-17

Sec. 52.7. “PM₁₀ emissions” means particulate matter with an aerodynamic diameter less than or equal to a nominal ten (10) micrometers (µm) as measured by either of the following:

- (1) A reference method based on 40 CFR 50, Appendix M, and designated in accordance with 40 CFR 53*.**
- (2) An equivalent method designated in accordance with 40 CFR 53*.**

***These documents are incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center-North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204.** (*Air Pollution Control Board; 326 IAC 1-2-52.7*)

SECTION 7. 326 IAC 1-2-82.2 IS ADDED TO READ AS FOLLOWS:

326 IAC 1-2-82.2 “Total suspended particulate” or “TSP” definition

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-15; IC 13-17

Sec. 82.2. “Total suspended particulate” or “TSP” means any particulate matter with an aerodynamic diameter smaller than one hundred (100) micrometers (µm). (*Air Pollution Control Board; 326 IAC 1-2-82.2*)

SECTION 8. 326 IAC 1-2-82.4 IS ADDED TO READ AS FOLLOWS:

326 IAC 1-2-82.4 “Total suspended particulate emissions” or “TSP emissions” definition

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-15; IC 13-17

Sec. 82.4. “Total suspended particulate emissions” or “TSP emissions” means any particulate matter with an aerodynamic diameter smaller than one hundred (100) micrometers (µm), as measured by the method described in 40 CFR 50, Appendix B*.

***These documents are incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center-North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204.** (*Air Pollution Control Board; 326 IAC 1-2-82.4*)

SECTION 9. 326 IAC 1-3-4, PROPOSED TO BE AMENDED AT 26 IR 3376, SECTION 1, IS AMENDED TO READ AS FOLLOWS:

326 IAC 1-3-4 Ambient air quality standards

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11

Affected: IC 13-15; IC 13-17

Sec. 4. (a) ~~The following ambient~~ **All measurements of air quality standards, that are expressed as mass per unit volume, micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), other than for the particulate matter (PM_{10} and $\text{PM}_{2.5}$) standards, shall be corrected to a reference temperature of twenty-five (25) degrees Celsius and to a reference pressure of seven hundred sixty (760) millimeters of mercury (one thousand thirteen and two-tenths (1,013.2) millibars), as micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). Measurements of PM_{10} and $\text{PM}_{2.5}$, for purposes of the standards contained in subsection (b)(7) and (b)(8), shall be reported based on actual ambient air volume measured at the actual ambient temperature and pressure at the monitoring site during the measurement period.**

(b) Ambient air quality standards are as follows:

(1) Sulfur oxides as sulfur dioxide (SO_2) requirements are as follows:

(A) For primary standards, the following values shall represent the maximum permissible ambient air quality levels:

(i) Eighty (80) $\mu\text{g}/\text{m}^3$ (three-hundredths (0.03) parts per million (ppm)) annual arithmetic mean.

(ii) Three hundred sixty-five (365) $\mu\text{g}/\text{m}^3$ (fourteen-hundredths (0.14) ppm) maximum twenty-four (24) hour average concentration not to be exceeded more than one (1) day per year.

(B) For secondary standards, the following value shall represent the maximum permissible ambient air quality levels: one thousand three hundred (1,300) $\mu\text{g}/\text{m}^3$ (five-tenths (0.5) ppm) maximum three (3) hour concentration not to be exceeded more than once per year.

(C) SO_2 values may be converted to ppm using the conversion factor two thousand six hundred twenty (2,620) $\mu\text{g}/\text{m}^3 = \text{one (1) ppm}$.

(2) Total suspended particulates (TSP) requirements are as follows:

(A) For primary standards, the following values shall represent the maximum permissible ambient air quality levels:

(i) Seventy-five (75) $\mu\text{g}/\text{m}^3$ annual geometric mean.

(ii) Two hundred sixty (260) $\mu\text{g}/\text{m}^3$ maximum twenty-four (24) hour average concentration not to be exceeded more than one (1) day per year.

(B) For secondary standards, the following value shall represent maximum permissible ambient air quality levels: one hundred fifty (150) $\mu\text{g}/\text{m}^3$ maximum twenty-four (24) hour average concentration not to be exceeded more than one (1) day per year.

(3) Carbon monoxide (CO) requirements are as follows:

(A) For primary and secondary standards, the following values shall represent the maximum permissible ambient air quality levels:

(i) Ten (10) milligrams per cubic meter (mg/m^3) (ten thousand (10,000) $\mu\text{g}/\text{m}^3$) (nine (9) ppm) maximum eight (8) hour average concentration not to be exceeded more than once per year.

(ii) Forty (40) mg/m^3 (forty thousand (40,000) $\mu\text{g}/\text{m}^3$) (thirty-five (35) ppm) maximum one (1) hour average concentration not to be exceeded more than once per year.

(B) CO values may be converted to ppm using the conversion factor one thousand one hundred forty-five (1,145) $\mu\text{g}/\text{m}^3 = \text{one (1) ppm}$.

(4) Ozone (O_3) requirements ~~shall be~~ **are** as follows:

(A) For the one (1) hour ozone standards, the level of the one (1) hour primary and secondary ambient air quality standards for ozone measured by a reference method based on 40 CFR 50, Appendix D* and designated in accordance with 40 CFR 53* is twelve-hundredths (0.12) ppm (two hundred thirty-five (235) $\mu\text{g}/\text{m}^3$). The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above twelve-hundredths (0.12) ppm (two hundred thirty-five (235) $\mu\text{g}/\text{m}^3$) is equal to or less than one (1) as determined by 40 CFR 50, Appendix H*.

(B) For the eight (8) hour ozone standards, the:

(i) level of the eight (8) hour primary and secondary ambient air quality standards for ozone, measured by a reference method based on 40 CFR 50, Appendix D* and designated in accordance with 40 CFR 53*, is eight-hundredths (0.08) ppm, daily maximum eight (8) hour average; and

(ii) eight (8) hour primary and secondary ozone ambient air quality standards are met at an ambient air quality monitoring site when the average of the annual fourth highest daily maximum eight (8) hour average ozone concentration is less than or equal to eight-hundredths (0.08) ppm as determined in accordance with 40 CFR 50, Appendix I*.

(C) O_3 values may be converted to ppm using the conversion factor one thousand nine hundred sixty-five (1,965) $\mu\text{g}/\text{m}^3 = 1.0 \text{ ppm}$.

(5) Nitrogen dioxide (NO_2) requirements ~~shall be~~ **are** as follows:

(A) For primary and secondary standards, the following value shall represent the maximum permissible ambient air quality level: one hundred (100) $\mu\text{g}/\text{m}^3$ (five-hundredths (0.05) ppm) annual arithmetic mean.

(B) NO_2 values may be converted to ppm using the conversion factor one thousand eight hundred eighty (1,880) $\mu\text{g}/\text{m}^3 = \text{one (1) ppm}$.

(1) ppm.

(6) Lead (Pb): For primary and secondary standards, the following value shall represent the maximum permissible ambient air quality level: one and five-tenths (1.5) micrograms lead per cubic meter of air (μg of Pb/ m^3), averaged over a calendar quarter and measured as elemental lead.

(7) PM₁₀: For primary and secondary standards, the following values shall represent the maximum permissible ambient air quality levels:

(A) Fifty (50) $\mu\text{g}/\text{m}^3$ annual arithmetic mean. The standards are attained when the expected annual arithmetic mean concentration, as determined in accordance with 40 CFR 50, Appendix K*, is less than or equal to fifty (50) $\mu\text{g}/\text{m}^3$.

(B) One hundred fifty (150) $\mu\text{g}/\text{m}^3$ maximum twenty-four (24) hour average concentration. The standards are attained when the expected number of days per calendar year with a twenty-four (24) hour average concentration above one hundred fifty (150) $\mu\text{g}/\text{m}^3$, as determined in accordance with 40 CFR 50, Appendix K,* is equal to or less than one (1).

(8) PM_{2.5}: For primary and secondary standards, the following values shall represent the maximum permissible ambient air quality levels:

(A) Fifteen (15) micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) annual arithmetic mean concentration. The standards are attained when the annual arithmetic mean concentration is less than or equal to fifteen (15) $\mu\text{g}/\text{m}^3$, as determined in accordance with 40 CFR 50, Appendix N* and measured in the ambient air as PM_{2.5} by either of the following:

(i) A reference method based on 40 CFR 50, Appendix L*, and designated in accordance of 40 CFR 53*.

(ii) An equivalent method designated in accordance with 40 CFR 53*.

(B) Sixty-five (65) $\mu\text{g}/\text{m}^3$ - twenty-four (24) hour average concentration. The standards are attained when the ninety-eighth percentile twenty-four (24) hour concentration is less than or equal to fifteen (15) micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), as determined in accordance with 40 CFR 50, Appendix N, and measured in the ambient air as PM_{2.5} by either of the following:

(i) A reference method based on 40 CFR 50, Appendix L*, and designated in accordance of 40 CFR 53*.

(ii) An equivalent method designated in accordance with 40 CFR 53*.

*These documents are incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center-North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204. (*Air Pollution Control Board; 326 IAC 1-3-4; filed Mar 10, 1988, 1:20 p.m.: 11 IR 2378; filed Apr 13, 1988, 3:35 p.m.: 11 IR 3020; readopted filed Jan 10, 2001, 3:20 p.m.: 24 IR 1477; filed May 21, 2002, 10:20 a.m.: 25 IR 3055*)

Notice of First Meeting/Hearing

Under IC 4-22-2-24, IC 13-14-8-6, and IC 13-14-9, notice is hereby given that on March 3, 2004, at 1:00 p.m., at the Indiana Government Center-South, 402 West Washington Street, Conference Center Room A, Indianapolis, Indiana the Air Pollution Control Board will hold a public hearing on amendments to 326 IAC 1-2-52 and 326 IAC 1-3-4 and new rules 326 IAC 1-2-52.1, 326 IAC 1-2-52.4, 326 IAC 1-2-52.5, 326 IAC 1-2-52.6, 326 IAC 1-2-52.7, 326 IAC 1-2-82.2, and 326 IAC 1-2-82.4.

The purpose of this hearing is to receive comments from the public prior to preliminary adoption of these rules by the board. All interested persons are invited and will be given reasonable opportunity to express their views concerning the proposed amendments. Oral statements will be heard, but, for the accuracy of the record, all comments should be submitted in writing.

Additional information regarding this action may be obtained from Gayl Killough, Rules Section, Office of Air Quality, (317) 233-8628 or (800) 451-6027 (in Indiana).

Individuals requiring reasonable accommodations for participation in this event should contact the Indiana Department of Environmental Management, Americans with Disabilities Act coordinator at:

Attn: ADA Coordinator

Indiana Department of Environmental Management

100 North Senate Avenue

P.O. Box 6015

Indianapolis, Indiana 46206-6015

or call (317) 233-0855. TDD: (317) 232-6565. Speech and hearing impaired callers may contact IDEM via the Indiana Relay Service at 1-800-743-3333. Please provide a minimum of 72 hours' notification.

Copies of these rules are now on file at the Office of Air Quality, Indiana Department of Environmental Management, Indiana Government Center-North, 100 North Senate Avenue, Tenth Floor, Indianapolis, Indiana, and are open for public inspection.