

**Notice of Proposed Rulemaking**  
**Department of Environmental Protection**  
**Environmental Quality Board**  
**25 Pa. Code Chapters 121 and 123**

The Environmental Quality Board (Board) proposes to amend 25 Pa. Code Chapters 121 and 123 (relating to definitions; and standards for contaminants) as set forth in Annex A. The proposed amendments would add four new terms and definitions under § 121.1 (relating to definitions). The proposed amendments would add provisions under Chapter 123 for the control of emissions of particulate matter (PM) from the operation of outdoor wood-fired boilers (OWBs).

This notice is given under Board order at its meeting of \_\_\_\_\_, 2009.

**A. Effective Date**

These amendments will be effective upon publication in the *Pennsylvania Bulletin* as final rulemaking.

These amendments will be submitted to the United States Environmental Protection Agency (EPA) as a revision to the Pennsylvania State Implementation Plan upon final rulemaking.

**B. Contact Persons**

For further information, contact Ron Davis, Chief, Division of Compliance and Enforcement, Bureau of Air Quality, 12<sup>th</sup> Floor, Rachel Carson State Office Building, P.O. Box 8468, Harrisburg, PA 17105-8468, telephone: 717-772-2328 or Robert “Bo” Reiley, Assistant Counsel, Bureau of Regulatory Counsel, 9th floor, Rachel Carson State Office Building, P.O. Box 8464, Harrisburg, PA 17105-8464, telephone: 717-787-7060.

Information regarding submitting comments on this proposal appears in Section K of this preamble. Persons with a disability may use the AT&T Relay Service by calling 1-800-654-5984 (TDD users) or 1-800-654-5988 (voice users). This proposal is available electronically through the Department of Environmental Protection’s (Department) web site at <http://www.depweb.state.pa.us> (Quick Access: Public Participation, then Proposals Open for Comment).

**C. Statutory Authority**

This action is being taken under the authority of section 5(a)(1) of the Air Pollution Control Act (APCA) (35 P.S. § 4005(a)(1)), which grants to the Board the authority to adopt regulations for the prevention, control, reduction and abatement of air pollution.

**D. Background and Summary**

On July 18, 1997, the EPA revised the National Ambient Air Quality Standard (NAAQS) for particulate matter (PM) to add a new standard for fine particles, using fine particulates equal to and less than 2.5 micrometers in diameter (PM<sub>2.5</sub>) as the indicator. The EPA set the health-

based (primary) and welfare-based (secondary) PM<sub>2.5</sub> 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  $\mu\text{g}/\text{m}^3$ . 62 FR 38652. The health-based primary standard is designed to protect human health from elevated levels of PM<sub>2.5</sub>, which have been linked to premature mortality and other important health effects. The secondary standard is designed to protect against major environmental effects of PM<sub>2.5</sub> such as visibility impairment, soiling and materials damage. The following counties in this Commonwealth have been designated nonattainment for the 1997 fine particulate NAAQS: Allegheny (Liberty-Clairton), Allegheny (remainder), Armstrong, Berks, Beaver, Bucks, Butler, Cambria, Chester, Cumberland, Dauphin, Delaware, Greene, Indiana, Lancaster, Lawrence, Lebanon, Montgomery and Philadelphia.

Subsequently, on October 17, 2006, the EPA revised the primary and secondary 24-hour NAAQS for PM<sub>2.5</sub> to 35  $\mu\text{g}/\text{m}^3$  from 65  $\mu\text{g}/\text{m}^3$ . 71 FR 61236. On December 18, 2008, all or portions of the following counties in Pennsylvania were designated by the EPA as nonattainment for the 2006 24-hour fine particulate NAAQS: Allegheny (Liberty-Clairton), Allegheny (remainder), Armstrong (partial), Berks, Beaver, Bucks, Butler, Cambria, Chester, Cumberland, Dauphin, Delaware, Greene (partial), Indiana (partial), Lancaster, Lawrence (partial), Lebanon, Lehigh, Montgomery, Northampton, Philadelphia, Washington, Westmoreland and York.

The health effects associated with exposure to PM<sub>2.5</sub> are significant. Epidemiological studies have shown a significant correlation between elevated PM<sub>2.5</sub> levels and premature mortality. Other important health effects associated with PM<sub>2.5</sub> exposure include 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. Individuals particularly sensitive to PM<sub>2.5</sub> exposure include older adults, people with heart and lung disease and children.

A significant and growing source of PM<sub>2.5</sub> emissions in this Commonwealth is from OWBs. OWBs, also referred to as outdoor wood-fired furnaces, outdoor wood-burning appliances, or outdoor hydronic heaters, are free-standing fuel-burning devices designed: (1) to burn clean wood or other approved solid fuels; (2) specifically for outdoor installation or installation in structures not normally intended for habitation by humans or domestic animals, such as garages; and (3) to heat building space or water via distribution, typically through pipes, of a fluid heated in the device, typically water or a water and antifreeze mixture. OWBs are being sold to heat homes and buildings and to produce domestic hot water.

The emissions, health effects and the nuisance factor created by the use of OWBs are a major concern to the Department of Environmental Protection (Department). The Northeast States for Coordinated Air Use Management has conducted stack tests on OWBs. Based on the test results, the average PM<sub>2.5</sub> emissions from one OWB are equivalent to the emissions from 205 oil furnaces or as many as 8,000 natural gas furnaces. Cumulatively, the smallest OWB has the potential to emit almost 1 1/2 tons of PM every year. Of the estimated 155,000 OWBs sold Nationwide, 95% have been sold in nineteen states, of which Pennsylvania is one.

Unlike indoor wood stoves that are regulated by the EPA, no Federal standards exist for OWBs and the majority of them are not equipped with pollution controls. The EPA has initiated a voluntary program that encourages manufacturers of OWBs to improve air quality through

developing and distributing cleaner-burning, more efficient OWBs. Phase 1 of the program was in place from January 2007 through October 15, 2008. To qualify for Phase 1, manufacturers were required to develop an OWB model that was 70% cleaner-burning than unqualified models by meeting the EPA air emission standard of 0.6 pounds PM per million Btu heat input as tested by an independent accredited laboratory. Phase 1 Partnership Agreements ended when the Phase 2 Partnership Agreements were initiated on October 16, 2008. To qualify for Phase 2, manufacturers must develop an OWB model that is 90% cleaner-burning than pre-program, unqualified OWBs and meet the EPA air emissions standard of 0.32 pounds PM per million Btu heat output as tested by an independent accredited laboratory. The emission standard established in the proposed rulemaking would be the Phase 2 emission standard described in the EPA voluntary program.

The proposed rulemaking would help assure that the citizens of this Commonwealth will benefit from reduced emissions of PM<sub>2.5</sub> from OWBs. Attaining and maintaining levels of PM<sub>2.5</sub> below the health-based NAAQS is important to reduce premature mortality and other health effects associated with PM<sub>2.5</sub> exposure. There are many citizen complaints regarding the operation of OWBs. This proposed rulemaking would reduce the problems associated with the operation of OWBs, including smoke, odors and burning prohibited fuels including garbage, tires, hazardous waste and the like. Reductions in ambient levels of PM<sub>2.5</sub> would promote improved human and animal health and welfare, improved visibility, decreased soiling and materials damage and decreased damage to plants and trees.

While there are no Federal limits for the OWBs that would be subject to regulation under this proposed rulemaking, section 4.2 of the APCA authorizes the Board to adopt regulations more stringent than Federal requirements when the control measures are reasonably necessary to achieve and maintain the ambient air quality standards. (35 P.S. § 4004.2) These measures are reasonably necessary to attain and maintain the primary and secondary 24-hour NAAQS for PM<sub>2.5</sub> in this Commonwealth.

#### **E. Summary of Regulatory Revisions**

The proposed amendments add definitions under § 121.1 for the following four new terms – “Btu,” “clean wood,” “outdoor wood-fired boiler” and “phase 2 outdoor wood-fired boiler.”

Section 123.14 (relating to outdoor wood-fired boilers) is proposed to be added. In general, under subsection (a) (relating to applicability) beginning on the effective date of the regulation, the requirements of this proposal apply to a person, manufacturer, supplier or distributor who sells, offers for sale, leases or distributes an OWB for use in this Commonwealth; a person who installs an OWB in this Commonwealth; and a person who purchases, receives, leases, owns, uses or operates an OWB in this Commonwealth.

Under subsection (b) (relating to Phase 2 outdoor wood-fired boiler), a person may not purchase, sell, offer for sale, distribute or install an outdoor wood-fired boiler for use in this Commonwealth unless it is a Phase 2 OWB.

Under subsection (c) (relating to setback requirements for Phase 2 outdoor wood-fired boilers), a person may not install a Phase 2 OWB in this Commonwealth unless the boiler is installed a minimum of 150 feet from the nearest property line.

Under subsection (d) (relating to stack height requirements for Phase 2 outdoor wood-fired boilers), a person may not install, use or operate a Phase 2 OWB in this Commonwealth unless the boiler has a permanently attached stack. The stack must meet both of the following height requirements: extend a minimum of 10 feet above the ground and extend at least two feet above the highest peak of the highest residence located within 150 feet of the outdoor wood-fired boiler.

Under subsection (e) (relating to stack height requirements for existing outdoor wood-fired boilers), a person may not use or operate an outdoor wood-fired boiler that was installed before the effective date of the regulation unless the boiler has a permanently attached stack. The stack must meet both of the following height requirements: extend a minimum of 10 feet above the ground and extend at least two feet above the highest peak of the highest residence located within 500 feet of the outdoor wood-fired boiler.

Under subsection (f) (relating to allowed fuels), a person that owns, leases, uses or operates a new or existing OWB in this Commonwealth shall use only one or more of the following fuels: clean wood; wood pellets made from clean wood; certain home heating oil, natural gas or propane fuels; or other fuel approved in writing by the Department.

Under subsection (g) (relating to prohibited fuels), a person who owns, leases, uses or operates an OWB in this Commonwealth may not burn a fuel or material in that OWB other than those fuels listed under subsection (f).

Under subsection (h) (relating to regulatory requirements), a person may not use or operate an OWB in this Commonwealth unless it complies with all applicable Commonwealth regulations and statutes.

Under subsection (i) (relating to written notice), prior to the execution of a sale or lease for a new or used OWB, the distributor, seller or lessor shall provide the prospective buyer or lessee with certain information as more fully explained under this subsection.

Under subsection (j) (relating to recordkeeping requirements), the distributor, seller or lessor shall keep the records required under subsection (i) onsite for 5 years and provide the records to the Department upon request.

In addition to the summary of the proposed rulemaking above, the Board also seeks comment on whether any final rule should include a seasonable prohibition to operate OWBs between the dates of May 1 and September 30. There is concern that while owners and operators may operate these units at a reduced capacity during the summer months, their operation may nevertheless result in increased PM emissions. Consequently, the Board would like to receive comments on whether a seasonal prohibition is an appropriate means to address this air quality issue.

## **F. Benefits, Costs and Compliance**

### **Benefits**

Overall, the citizens of this Commonwealth will benefit from these proposed amendments because it would help to reduce emissions of PM2.5 from OWBs. Attaining and maintaining levels of PM2.5 below the health-based NAAQS is important to reduce premature mortality and other health effects associated with PM2.5 exposure. There are also many citizen complaints regarding the operation of OWBs. Reductions in ambient levels of PM2.5 would promote improved human and animal health and welfare, improved visibility, decreased soiling and materials damage and decreased damage to plants and trees.

### **Compliance Costs**

The cost of complying with the new requirements includes the cost of designing, manufacturing and distributing an OWB model that meets the EPA Phase 2 emission limit. Currently, there are six models available Nationally that meet the EPA Phase 2 emission limit. Non-qualifying OWB models cost between \$8,000 and \$18,000, depending on the size of the unit. It is estimated that the cleaner units may be approximately 15% more expensive because of the changes made to improve the efficiency of these units and reduce their emissions. However, most of these qualifying models are significantly more efficient which means they will burn less wood to produce the same amount of heat, reducing the cost of wood purchases.

Operators of existing OWBs would be required to ensure that the stack height complies with the requirements of the proposed rulemaking. Therefore, operators of existing OWBs may be required to extend the height of the existing stack. A review of the Hearthside Fireplace, Patio and Barbecue Center internet catalog indicated that the cost would be between \$73 and \$84 for a two-foot section of chimney pipe and between \$119 and \$145 for a four-foot section of chimney pipe.

### **Compliance Assistance Plan**

The Department plans to educate and assist the public and regulated community in understanding the newly added requirements and how to comply with them. This will be accomplished through the Department's ongoing compliance assistance program.

### **Paperwork Requirements**

There are some additional paperwork requirements associated with this proposed rulemaking that the regulated community would need to comply with, namely a written notice of information specified under § 123.14(i). Subsection (j) requires that the distributor, seller or lessor shall keep the records required under subsection (i) onsite for 5 years and provide the records to the Department upon request.

### **G. Advisory Committee Recommendation**

The Department worked with the Air Quality Technical Advisory Committee (AQTAC) in the development of this proposed rulemaking. At its May 28, 2009 meeting, the AQTAC recommended adoption of the proposed rulemaking. The Department also consulted with the Citizens Advisory Council on July 21, 2009, the Small Business Compliance Advisory Committee on July 22, 2009, and the Agricultural Advisory Board on August 19, 2009.

## **H. Pollution Prevention**

The Federal Pollution Prevention Act of 1990 established a National policy that promotes pollution prevention as the preferred means for achieving state environmental protection goals. The Department encourages pollution prevention, which is the reduction or elimination of pollution at its source, through the substitution of environmentally friendly materials, more efficient use of raw materials and the incorporation of energy efficiency strategies. Pollution prevention practices can provide greater environmental protection with greater efficiency because they can result in significant cost savings to facilities that permanently achieve or move beyond compliance. The proposed rulemaking does not directly promote a multi-media approach. The reduced levels of PM<sub>2.5</sub>, however, will benefit water quality through reduced soiling and quantities of sediment that may run off into waterways. Reduced levels of PM<sub>2.5</sub> would therefore promote improved aquatic life and biodiversity, as well as improved human, animal and plant life on land.

## **I. Sunset Review**

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.

## **J. Regulatory Review**

Under section 5(a) of the Regulatory Review Act, 71 P.S. § 745.5(a), on (blank), the Department submitted a copy of these proposed amendments to the Independent Regulatory Review Commission (IRRC) and the Chairpersons of the House and Senate Environmental Resources and Energy Committees. In addition to submitting the proposed amendments, the Department has provided the IRRC and the Committees with a copy of a detailed regulatory analysis form prepared by the Department. A copy of this material is available to the public upon request.

Under section 5(g) of the Regulatory Review Act, the IRRC may convey any comments, recommendations or objections to the proposed regulations within 30 days of the close of the public comment period. The comments, recommendations or objections shall specify the regulatory review criteria that have not been met. The Regulatory Review Act specifies detailed procedures for review of these issues by the Department, the General Assembly and the Governor prior to final publication of the regulations.

## **K. Public Comments**

**Written Comments** - Interested persons are invited to submit comments, suggestions or objections regarding the proposed regulation to the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477 (express mail: Rachel Carson State Office Building, 16th Floor, 400 Market Street, Harrisburg, PA 17101-2301). Comments submitted by facsimile will not be accepted. Comments, suggestions or objections must be received by the Board by (blank) (within \_\_ days of publication in the *Pennsylvania Bulletin* and within 30 days after the last hearing). Interested persons may also submit a summary of their comments to the Board. The summary may not exceed one page in length and must also be received by (blank) (within

\_\_\_ days of publication in the *Pennsylvania Bulletin* and within 30 days after the last hearing). The one-page summary will be provided to each member of the Board in the agenda packet distributed prior to the meeting at which the final regulation will be considered.

**Electronic Comments** - Comments may be submitted electronically to the Board at RegComments@state.pa.us and must also be received by the Board by \_\_\_(date)\_\_. A subject heading of the proposal and a return name and address must be included in each transmission. If the sender does not receive an acknowledgement of electronic comments within 2 working days, the comments should be retransmitted to ensure receipt.

**L. Public Hearings**

The Environmental Quality Board will hold four public hearings for the purpose of accepting comments on this proposal. The hearings will be held at \_\_\_ p.m. on the following dates:

- \_\_\_\_\_ (blank) \_\_\_\_\_
- \_\_\_\_\_ (blank) \_\_\_\_\_
- \_\_\_\_\_ (blank) \_\_\_\_\_
- \_\_\_\_\_ (blank) \_\_\_\_\_

Persons wishing to present testimony at a hearing are requested to contact the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477, 717-787-4526, at least one week in advance of the hearing to reserve a time to present testimony. Oral testimony is limited to ten minutes for each witness. Witnesses are requested to submit three written copies of their oral testimony to the hearing chairperson at the hearing. Organizations are limited to designating one witness to present testimony on their behalf at each hearing.

Persons in need of accommodations as provided for in the Americans With Disabilities Act of 1990 should contact the Environmental Quality Board at 717-787-4526 or through the Pennsylvania AT&T Relay Service at 1-800-654-5984 (TDD) to discuss how the Board may accommodate their needs.

JOHN HANGER  
Chairman