



1-11-17

Facts About...

Amendments to COMAR 26.11.09.11 Control of Particulate Matter from Small Wood Boilers

Purpose of the Amendment

The purpose of this action is to amend existing Regulation .11 under COMAR 26.11.09 to establish revised emission and operating standards and compliance procedures for small wood boilers (350,000 Btu or less) sold and made available for use in Maryland. These amendments will better align Maryland regulations with federal wood heater rules introduced on February 3, 2015.

Submission to EPA as Revision to Maryland's SIP

No.

Background

A small wood boiler is a furnace, boiler or stove that is designed to burn wood for heating and hot water needs. These units vary in size from 115,000 to 3.2 million Btu per hour and are often located away from the residence or business in a self-contained shed with a smoke stack. This shed protects a firebox surrounded by a water jacket in which water is heated then pumped through underground pipes to homes, shops, swimming pools, spas or any application that requires heat or hot water.

While the fundamental design of a wood boiler maximizes the transfer of heat to the water, wood boilers that do not have sufficient emission controls may cumulatively be a significant source of air pollution, which contribute to various environmental and health problems. Given the increased use of wood boilers in areas throughout the country, a number of states and local municipalities have developed regulations to require emission standards for wood boilers. In 2007, EPA launched a voluntary program to encourage manufacturers to make wood boilers (also known as hydronic heaters) cleaner. Through the voluntary hydronic heater program, manufacturers have redesigned some models to make new units available to consumers that are 90 percent cleaner on average than unqualified models, based on laboratory testing¹.

In April 2009, the Maryland Department of the Environment (MDE) adopted COMAR 26.11.09.11 – Control of Particulate Matter from Small Wood Boilers, which established stringent particulate

¹US EPA – Voluntary Hydronic Heater Program. <https://www.epa.gov/burnwise/voluntary-hydronic-heater-program>

matter (PM) limits for small wood boilers, and fuel and labeling requirements for small wood boilers based upon EPA's voluntary program.

Small wood boilers were not previously covered by EPA's air emissions standards. On February 3, 2015, EPA strengthened its clean air standards for residential wood heaters to make new wood boilers significantly cleaner and improve air quality in communities where people burn wood for heat. The updates, which are based on improved wood heater technology, establish the first ever federal air standards for hydronic heaters. EPA's final rule, promulgated as one of its New Source Performance Standards (NSPS), will phase in emission limits over a five-year period, beginning in 2015. The standards apply only to new wood heaters and will not affect wood heaters already in use.

Maryland's proposed amendments to COMAR 26.11.09.11 are based upon and incorporate EPA's NSPS for hydronic heaters, which establishes emission, labeling, and testing standards for hydronic heaters starting in 2015. Maryland's current regulations maintain a PM standard that matches the 2015 standard in the federal rule. The proposed amendments will maintain the current PM requirements through 2019. The proposed amendment will implement a more stringent PM limit beginning in 2020, consistent with the federal rule.

Sources Affected and Location

The amendments to the regulation apply to manufacturers, suppliers, distributors, and those intending to sell, lease, distribute, or market a small wood boiler. The amendments also apply to any person who installs, operates, or owns a small wood boiler.

Requirements

The amendments to the regulation are based upon U.S. EPA's NSPS for hydronic heaters and establish the following standards:

- Particulate matter emission limits. Since 2009, Maryland has prohibited the sale, distribution, and installation of small wood boilers that do not meet certain emission limits. From April 1, 2009 to March 31, 2010, small wood boilers had to meet an emission limit of 0.60 pounds per million Btu (heat input). Currently, units that do not meet an emission limit of 0.32 pounds particulate matter per million Btu of heat output are prohibited. Under the amendments to the regulation, small wood boilers must continue to meet an emission limit of 0.32 pounds particulate matter per million Btu, which is identical to the standard in the EPA rule. Starting in 2020, small wood boilers will have to meet a more stringent emission limit of 0.10 pounds particulate matter per million Btu heat output for each burn rate (or an alternative limit of 0.15 pounds particulate matter per million Btu heat output for each burn rate if tested with cordwood);
- Acceptable fuels. Under the current regulation, owners and operators of small wood boilers may only use certain items as fuel. Acceptable fuels include clean wood, wood pellets made

from clean wood, or other fuels approved by the Department. The amendments to the regulation will continue to require the use clean fuels – this is identical to the federal standards found in the NSPS for hydronic heaters;

- Labeling requirements. The current regulation requires manufacturers to meet specific labeling standards for each model they wish to sell in the state. The amendments to the regulation will continue to reflect the current regulation as well as the EPA rule, which both require small wood boilers sold in the United States to have a permanent label indicating they meet EPA-certified emission limits;
- Testing and certification requirements. The amendments to the regulation requires manufacturers to certify that each model meets the applicable particulate matter emission standard using one of the test methods listed in the EPA rule (40 CFR §60.5476). This replaces current testing and certification requirements which require manufacturers to obtain certification of boilers in accordance with test methods listed in the regulation and submit the results in writing to the Department; and
- Seasonal prohibition. The amendments to the regulation include a provision that prohibits the operation of small wood boilers between May 1 to September 30 of any year, beginning May 1, 2018, unless the unit complies with a particulate matter emission standard equal to or less than 0.32 pounds per million Btu heat output. Early May to late September usually constitute the hottest months of the year with significant poor air quality days. This provision is being implemented to reduce nuisance conditions of smoke and odor, and reduce ozone forming pollutants, which contribute to poor air quality conditions that often occur during the warmer summer months.

In addition, local and county governments have the continued authority to enforce certain provisions of this regulation (including nuisance complaints) and to implement additional rules or restrictions. Owners and operators of small wood boilers should consult with their local government agencies for more information.

Is there an Equivalent Federal Standard to this Proposed Regulatory Action?

Yes, the proposed amendments to the regulation reflect the updated (effective May 15, 2015) new source performance standards (NSPS) for residential wood heaters (40 CFR Part 60, Subpart QQQQ) by the U.S. EPA.

Expected Emissions Reductions

The use and sale of small wood boilers in Maryland have been regulated since 2009, which has resulted in less polluting and cleaner burning units. Nationwide, the EPA estimates that as a result of the NSPS for hydronic heaters, PM and volatile organic compound (VOC) emissions from units covered by the rule are estimated to drop by approximately 70 percent (8,300 tons/year for PM and 9,300 tons/year for VOC) compared to estimated emissions without the final rule. In addition, the EPA estimates that the rule will result in an estimated reduction of carbon monoxide emissions of 62

percent (46,000 tons/year).

Economic Impact on Affected Sources, the Department, other State Agencies, Local Government, other Industries or Trade Groups, the Public

The proposed regulation will have:

- Minimal impact on the Department and local municipalities. The Department believes the amendments to the regulation will result in minimal additional impact since enforcement of current emission standards, labeling requirements, and other requirements and standards for owners and operators of small wood boilers has occurred since 2009.
- Minimal impact on manufacturers. Manufacturers of small wood boilers may incur additional costs as a result of redesigning or producing new units to meet standards and requirements in the EPA rule (Step 2 emission standard of 0.10 pounds per million Btu with an alternative standard of 0.15 pounds per million Btu), which amendments to the regulation are based upon. Many small wood boilers currently on the market already meet this proposed standard. There are no known manufacturers of small wood boilers in the State.
- Minimal impact on prospective purchasers and operators of new compliant small wood boilers. Since 2009, Maryland residents have had the opportunity to purchase cleaner burning small wood boilers, and since 2010, units offered for sale have had to meet a particulate matter emission limit of 0.32 pounds per million Btu – which is the same as the Step 1 standard in the EPA rule. Prospective purchasers may see an increase in the cost of new boilers once manufacturers of small wood boilers must comply with the federal emission limit of 0.10 pounds particulate matter per million Btu (alternative standard of 0.15 particulate matter pounds per million Btu) no later than May 1, 2020.
- Minimal impact on retailers. Since April 1, 2010, units sold in Maryland are required to meet a particulate matter emission limit of 0.32 pounds per million Btu. Furthermore, retailers are required to only sell units to Maryland residents that meet this emission limit. In an effort to assist retailers, the EPA's rule allowed retailers of small wood boilers to sell their existing inventory until December 31, 2015. After this date, heaters sold at retail in the United States are required to meet EPA emission standards and requirements.
- Minimal impact on owners and operators of existing wood boilers since they are not required to meet the emission, certification, and labeling standards in the proposed regulation. Owners and operators of existing boilers are required to continue to meet all other standards (i.e. requirements and standards for owners and operators) as they exist in the current regulation since 2009 and in the proposed regulation. Owners and operators of existing small wood boilers are required to comply with all State, county and local laws and not cause a nuisance or condition of air pollution. The seasonal prohibition should also have a minimal impact since it only prohibits the operation of small wood boilers between May 1 to September 30 of any given year. As these units are generally used for home heating, they are not used frequently during the summer.

- Minimal impact on public health. Home owners and their neighbors (or citizens of Maryland) will benefit from cleaner technology requirements. Less uncontrolled smoke, particulate matter, nuisance odors and toxic compound emissions will be generated from the new units under this regulation and this will result in better health protections.

Economic Impact on Small Businesses

There is no small business in Maryland that has been identified to incur substantial economic impact as a result of the proposed action. The affected sources are likely to meet the standards at minimum cost.