

Residential Wood Heaters New Source Performance Standards (NSPS) Proposal – General Overview

Webinar for State, Tribal and Local Agencies
February 18, 2014

Please email comments on the proposal to the official docket at:

a-and-r-docket@epa.gov,

Attention Docket ID No. EPA-HQ-OAR-2009-0734

Current Schedule

- ▶ Proposal was signed by EPA Administrator on January 3, 2014
- ▶ The full proposal and fact sheets are available on-line at <http://www2.epa.gov/residential-wood-heaters>
- ▶ The proposal was published in *Federal Register* on February 3. <http://www.gpo.gov/fdsys/pkg/FR-2014-02-03/pdf/2014-00409.pdf>
- ▶ There is a 90-day public comment period until May 5
 - ▶ Opportunity to submit comments and data for EPA to consider
 - ▶ Information on how to comment is on the website
- ▶ A public hearing will be held in Boston on February 26, 2014.
 - ▶ Information on how to register is on the website.
- ▶ We will consider all comments and issue the final rule in 2015.

Scope of the Rules

We are proposing three subparts as follows:

- ▶ Subpart AAA (for “room heaters”) revision
 - Adjustable burn rate stoves
 - Single-burn rate stoves
 - Pellet stoves

- ▶ Subpart QQQQ (“central heaters”) new rule
 - Outdoor and indoor hydronic heaters
 - Forced-air furnaces

- ▶ Subpart RRRR new rule
 - Masonry Heaters

Summary of Proposal

- ▶ The 1988 NSPS requires manufacturers to design new residential wood heaters to meet particulate emission (PM) limits, have representative heaters (per model line) tested by an EPA-accredited lab, and attach EPA label after EPA approval.
- ▶ The proposal would update the 1988 NSPS to reflect today's best systems of emission reduction, considering costs. These systems are ~80% cleaner and more efficient.
- ▶ The rule would affect models manufactured and sold after the rule is final.
- ▶ The rule would also establish new emission limits for types of heaters that have become popular after the 1988 NSPS was issued
- ▶ Step 1 emission limits would be required when the rule is final (2015) and tighter Step 2 limits will be required 5 years after the rule is final.
- ▶ Test methods would be revised to improve precision and better reflect the real world, *e.g.*, use cord wood and consider peak, shorter-term emissions.
- ▶ The rule would also require testing and reporting efficiency and carbon monoxide.
- ▶ The projected monetized health benefits are far greater than the costs (>100:1).

Not Covered

- ▶ Existing heaters currently in use in people's homes⁴
- ▶ Outdoor fireplaces, pizza ovens, barbecues, fire pits, chimineas, traditional Native American bake ovens, ceremonial fires
- ▶ Heaters fueled solely by oil, gas or coal (or other non-wood materials)
- ▶ Proposal by itself would not ban certified devices or restrict hours of use.
- ▶ New indoor fireplaces
 - ▶ Not effective heaters (this NSPS is for "residential wood heaters")
 - ▶ However, EPA is taking comment
 - ▶ Fireplaces are included in an EPA voluntary program that encourages manufacturers to make cleaner-burning fireplaces and retrofits available for consumers.
- ▶ While the proposed rule does not cover existing heaters, state or local governments may wish to address them through local measures. "Strategies for Reducing Residential Wood Smoke" on EPA's Burn Wise website includes ideas for local regulations, voluntary programs, funding mechanisms and best burn practices - all of which can help reduce particle pollution from existing wood-burning appliances.

Outreach

- ▶ We conducted extensive outreach as we developed the proposal, seeking input from numerous wood heater manufacturers, state, local and tribal governments, regional air quality agencies, and citizen and environmental groups.
- ▶ We also participated in a Small Business Advocacy Review Panel to seek input and advice. The preamble discusses the changes made to the proposal in response to the panel's recommendations to reduce small business impacts as much possible while still meeting the legal requirements in the Clean Air Act.
- ▶ We will continue to work to address environmental and small business potential impacts throughout the process to get to the final rule.

Room Heaters (Subpart AAA Proposed Revisions)

- ▶ Adjustable burn-rate wood stoves (focus of 1988 NSPS)
 - ▶ Proposal would strengthen existing emission limits in two steps over a five-year period
 - Step 1 – similar to Washington State’s 1995 limit for non-catalytic stoves (most adjustable rate EPA-certified stoves already meet today)
 - EPA-certified stoves can continue manufacturing/sales until current certification expires, up to a maximum of five years
 - Step 2 – meet strengthened limits (see table)
- ▶ Single burn-rate wood stoves (NOT covered by 1988 NSPS)
 - ▶ Would have to meet the same emission limits as adjustable burn-rate stoves
- ▶ Pellet stoves
 - ▶ Would be explicitly included
 - Pellet stoves are inadvertently exempted from 1988 NSPS if their air-to-fuel ratio is >35:1. Exemption was intended only for typical open fireplaces with high excess combustion air.
 - ▶ Would have to meet same emission limits as adjustable burn rate heaters

Room Heaters -- Proposed Emission Limits

Subpart AAA Appliances	Phases / Steps	PM Emission Limits
Heaters with current EPA certification issued prior to the effective date of the Final Rule	Transition period from 1988 rule through the later of the effective date of the final revised rule or expiration of current certification (maximum of 5 years certification and no renewal)	4.1 g/hr for catalytic heaters/stoves and 7.5 g/hr for noncatalytic heaters/stoves (1988 NSPS limits)
All other heaters (includes currently certified heaters after the certification expires)	<p>Step 1: upon the effective date of final rule (60 days after publication)</p> <p>Step 2: 5 years after the effective date of the final rule</p>	<p>4.5 g/hr (weighted average)</p> <p>1.3 g/hr for each burn rate</p>

Manufacturers must use 3rd-party, independent, ISO-accredited and EPA-approved test laboratories and certifying entities to demonstrate compliance with a representative appliance for a model line.

Central Heaters (Subpart QQQQ Proposal)

- ▶ Would affect hydronic heaters and forced-air furnaces
- ▶ Not subject to 1988 NSPS
- ▶ Hydronic heaters are also known as indoor and outdoor wood boilers

Hydronic Heaters (in Subpart QQQQ)

- ▶ In January 2007, EPA instituted a voluntary program and NESCAUM developed a model rule that several states subsequently used as a starting point for state regulations.
- ▶ Some manufacturers redesigned their models to be Phase 2 white tag “qualified” models >80% cleaner (in lab tests) than unqualified ones
 - ▶ > 40 current qualified Phase 2 models
 - ▶ > 30 manufacturers are signatory partners in the voluntary program
- ▶ 2-Step phase-in
 - ▶ Step 1: test and certify to meet level similar to current Phase 2 white tag qualifying level for EPA voluntary “Hydronic Heater Program”
 - ▶ Step 2: meet strengthened limits (see table) 5 years after effective date
- ▶ Testing and certification process similar to revised subpart AAA

Hydronic Heater – Proposed Emission Limits

Step	PM Emission Limit	Compliance Date
Step 1	0.32 pounds per million BTU heat output (weighted average) and a cap of 7.5 g/hr for any individual test run	60 days after publication of final rule
Step 2	0.06 pounds per million BTU heat output for each burn rate	5 years after publication of final rule

EPA also is seeking comment on a 3-Step approach over an 8-year period. This approach would include an interim limit of 0.15 pounds per million Btu heat output 3 years after the rule is published in the *Federal Register*.

Forced-Air Furnaces (in Subpart QQQQ)

- ▶ Step 1 is based on the Canadian consensus standard.
- ▶ Step 1 is higher than HH because most forced-air furnaces have not progressed as quickly, but all should catch up by Step 2

Step	PM Emission Limit	Compliance Date
Step 1	0.93 pounds per million BTU heat output (weighted average) and a cap of 7.5 g/hr for any individual test run	60 days after publication of final rule
Step 2	0.06 pounds per million BTU heat output for each run	5 years after publication of final rule

EPA also is seeking comment on phasing in the limits in 3 steps over an 8-year period. This approach would include an interim emissions limit of 0.15 pounds per million Btu heat output 3 years after the rule is published in the *Federal Register* (the same interim limit as for hydronic heaters).

Masonry Heaters (in Subpart RRRR)

- ▶ Currently not regulated
- ▶ Would require certification process similar to revised Subpart AAA
- ▶ Limit based on test data for typical masonry heaters that perform well.
- ▶ Asking for comments on alternatives to testing. Most heaters are custom built on-site, so testing each custom model could be difficult.
- ▶ Compliance deadlines based on production level
 - ▶ Most companies make fewer than 15 heaters per year

Annual Production Level	PM Emission Limit	Compliance Deadline
15 heaters or more	0.32 pounds per million BTU heat output	60 days after final rule is published
Fewer than 15 heaters	0.32 pounds per million BTU heat output	5 years after final rule is published

Test Methods

▶ **Peak, shorter-term particulate emissions**

- ▶ Would add multiple 1-hour filters for each test run to gather data regarding start-up and anticipated peaks.
- ▶ For Step 2, EPA would require compliance with emission limits at the lowest burn rate (“Category 1”) and the maximum burn rate (“Category 4”) rather than the weighted average of the four burn rates in the current NSPS.

▶ **Cordwood test method**

- ▶ EPA would add testing with cordwood to encourage best real-world performance. For Step 1, the manufacturer would submit 2 test reports, 1 with cribs (dimensional lumber) and 1 with cordwood and choose which results to use for certification. Step 2 tests would all be with cordwood.
- ▶ We will continue to work with states, labs and industry on the details.

▶ **Precision**

- ▶ The proposal includes improvements to the test methods to improve precision.

Efficiency and Carbon Monoxide

- ▶ Efficiency
 - ▶ Would require testing and reporting but not a minimum efficiency
- ▶ Carbon Monoxide
 - ▶ Would require testing and reporting of CO but not an emission limit
- ▶ Information would guide consumers' decisions
 - ▶ Model line performance testing by 3rd-party
 - ISO-accredited labs and certifying bodies
 - ▶ Reviewed/approved by EPA
 - ▶ Model lines also subject to audit testing
 - Sealed/stored units used for original performance test
 - Original drawings compared to actual unit

Projected Impacts

- ▶ We estimate the rule would reduce fine particle pollution from new heaters by ~4,800 tons per year over the 2015-2022 timeframe; many reductions would be in areas with significant particle pollution problems.
- ▶ Estimated monetized health benefits would be >\$4 billion per year.
- ▶ Costs are estimated at ~\$16 million per year.

Comments

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