



Residential Wood Heaters

New Source Performance Standards (NSPS)

Status of Draft Proposed Rule
December 8, 2011

Status

- Fine-tuning our benefits and economic analyses
- Draft proposal package should be ready for OMB review in January 2012
- The schedule has changed given that the rule is not court-ordered
 - Summer 2012 – Proposed NSPS for EPA Administrator's signature
 - 90-day public comment period
 - Summer 2013 – Final NSPS for EPA Administrator's signature

Summary of Draft Proposal Requirements

- The draft proposed rule would affect an estimated 122 existing manufacturers and test laboratories; almost all are small businesses.
- Total fifth-year (2018) manufacturer annualized cost impacts are \$8 million.
- The rule would result in an estimated particulate emissions reduction of >5,100 tons in 2018; much are in non-attainment areas in NE and NW.
- Monetized benefits are estimated to be \$1.7 billion to \$4.5 billion (2008\$) in 2018.
- We are currently preparing benefits and cost estimates for 2015.
- A more detailed summary is provided in Appendix 1.

Previous Feedback from States

- Many states want us to propose the strongest standards as soon as possible, especially for hydronic heaters.
- Some states are disappointed that we are not proposing wood stove standards tighter than Washington State's.
- Some states want us to make the test methods stronger.
- Some states are disappointed that we are not proposing carbon monoxide (CO) emission limits, visible emission limits, and requirements for energy audits, proper sizing, heat storage, and certified installers.

Previous Feedback from Industry

- Most support our proposal to not regulate fireplaces.
- Most support our proposal to address additional appliances such as hydronic heaters and single-burn-rate stoves.
- For hydronic heaters, the Hearth, Patio and Barbecue Association (HPBA) questions the stringency of the state-of-the-art “best system of emission reduction” (BSER), the test methods and the use of European test data.
- Manufacturers of noncatalytic appliances support our proposal of wood stove standards at the Washington State levels.
- Manufacturers of catalytic appliances are disappointed we are not proposing to set a one-level standard that would improve their market share (currently ~10%).

Next Steps

- ❑ Fine-tuning our benefits and economic analyses
- ❑ OMB review (90 days)
- ❑ Administrator's review of draft proposal and signature
- ❑ Publication in Federal Register ~3 weeks after signature
- ❑ 90-day public comment period after publication

Appendices

- (1) Summary of DRAFT Proposed Rule
- (2) Potential PM_{2.5} Emissions from New Units Sold

Summary of DRAFT Proposed Rule

APPLIANCE TYPE	PREFERRED PROPOSAL (KEY ASPECTS) (ALL EMISSION LIMITS BELOW ARE FOR PM UNLESS OTHERWISE SPECIFIED)	COMPLIANCE DEADLINES	COST EFFECTIVE- NESS (2008 \$/T IN 2017 / 5 TH YR)	ANNUALIZED COST- TO-SALES RATIOS (% IN 2017 / 5 TH YR)	KEY ISSUES AND OTHER SIGNIFICANT POTENTIAL OPTIONS FOR PROMULGATION
Wood stoves	Tightens existing NSPS limits to match WA limits, i.e., 4.5 g of PM per hr (non-catalytic), 2.5 g/hr (catalytic). Adds efficiency requirement of 70% to reduce CO.	“2014” i.e., 1 year after expected effective date (Level 1)	N/A	N/A	Current NSPS limits are 7.5 g/hr (non-catalytic stoves) and 4.1 g/hr (catalytic stoves), however >85% of existing EPA-certified stoves currently meet WA limits. We are proposing test method improvements. <u>We request comments and data to support other options for promulgation, e.g., establishing one limit of 2.5 g/hr for both non-catalytic and catalytic stoves. Cost-effectiveness is estimated at \$29K/T, with annualized cost-to-sales ratio of 5.9% (Level 2).</u>
Hydronic heaters	0.32 lb/mmBTU heat output with cap of 18 g/hr (matches Phase 2 of EPA voluntary program and NESCAUM model rule). Adds efficiency requirement of 75% to reduce CO. 0.15 lb/mmBTU heat output with cap of 7.5 g/hr and efficiency of 80%.	“2014” for outdoor “2015” for indoor (Level 1) “2017” (Level 2) <u>Considering Co- proposal of Level 2 “immediately”</u>	\$1,200/T \$2,300/T (incremental)	0.7% (outdoor); 6.6% (indoor) 1.5% (outdoor), 13.2% (indoor)	Strong industry, states, public support for including in revised NSPS. Proposing test method revisions. <u>We request comments and data to support additional options for promulgation, such as co-proposal of Level 2 “immediately”.</u>
Single-burn- rate stoves	3.0 g/hr and 70% efficiency.	“2015” (Level 1)	\$1,500/T	8.8%	Largest exemption for wood stoves in existing NSPS in terms of number of units sold (>40,000 units/year). <u>We request comments and data to support additional options for promulgation, e.g., 2.5 g/hr.</u>

Summary of DRAFT Proposed Rule, continued

APPLIANCE TYPE	PREFERRED PROPOSAL (KEY ASPECTS) (ALL EMISSION LIMITS BELOW ARE FOR PM UNLESS OTHERWISE SPECIFIED)	COMPLIANCE DEADLINES	COST EFFECTIVE- NESS (2008 \$/T IN 2017 / 5 TH YR)	ANNUALIZED COST-TO- SALES RATIOS (% IN 2017 / 5 TH YR)	KEY ISSUES AND OTHER SIGNIFICANT POTENTIAL OPTIONS FOR PROMULGATION
Forced-air furnaces	0.93 lb/mmBTU heat output (equivalent to Canadian level).	“2015” (Level 1)	\$900/T	3.2%	Emissions more significant than previously thought. Manufacturers want more time to develop improved best demonstrated systems of emission reduction (BSER). We request data and comments to support <u>additional options for promulgation</u> , e.g., same levels as hydronic heaters to avoid competitive imbalance.
Pellet stoves	4.5 g/hr (non-catalytic), 2.5 g/hr (catalytic) and 70% efficiency. Specifically include in NSPS; i.e., do not allow current exemption for appliances with >35:1 air-to-fuel ratio.	“2014” (Level 1)	N/A	N/A	Typically cleaner than wood stoves. Inclusion in NSPS reduces competitive imbalance versus wood stoves. Manufacturers generally want to be included in the NSPS. We propose that emission tests use pellets that meet fuel quality standards developed by Pellet Fuel Institute. We request data and comments to support <u>additional options for promulgation</u> , e.g., tighten the level in “2015” to 2.5 g/hr. Estimated cost-effectiveness of \$61K/T and cost-to-sales ratio of 0.97% (Level 2).
Masonry heaters	0.32 lb/mmBTU heat output	“2015” (Level 1)	N/A	22.3%	Strong support by some manufacturers for being included. We did not create a wood smoke partnership program because of low % of total wood smoke emissions. We request comments and data to support <u>additional options for promulgation</u> .

Summary of DRAFT Proposed Rule, continued

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Manufactured fireplaces (low mass)	Not included in this NSPS proposal due to concerns about national cost-effectiveness and potential economic impacts although local fireplace regulations may be cost-effective PM reductions strategies in some areas. <u>In preamble, we request comments on whether EPA should consider options in the future.</u>	N/A	N/A	N/A	Some states want Federal regulations. Industry wants combination of EPA wood smoke partnership program and state/local rules where most needed. We note that we considered a Level 1 option to set NSPS at current EPA partnership program level of 5.1 g/kg. (13 EPA-qualified models already meet this.) Estimated cost-effectiveness of \$22K/T and cost-to-sales ratio of 5.8%. We note that another option would be to not regulate now, but to tighten partnership program level.
Masonry fireplaces	Not included in this NSPS proposal due to concerns about national cost-effectiveness, impacts on masons, and the small percentage (10%) of total fireplaces.	N/A	N/A	N/A	<u>In preamble, we encourage certification of masons by Mason Contractors Association of America.</u>
Cook stoves	<u>Only requires labeling, tighter definition.</u>	“2013”	N/A	N/A	Less than 1000 new units per year. We request data and comments to support <u>additional options for promulgation</u> , e.g., standards similar to wood heaters.
Camp stoves	<u>Only requires labeling.</u>	“2013”	N/A	N/A	We request data and comments to support <u>additional options for promulgation</u> , e.g., standards similar to wood heaters.

Summary of DRAFT Proposed Rule, continued

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Native American bake ovens	Only includes definitions to clarify, focus <u>exclusions</u>	N/A	N/A	N/A	We conducted tribal outreach and consultation.
Native American ceremonial fires	Only includes language to clarify that such fires are <u>excluded</u>	N/A	N/A	N/A	We conducted tribal outreach and consultation.
Coal stoves	<u>Only includes labeling. Emission limits not included in this NSPS proposal due to insufficient data on best systems of emission reduction for various types of coal.</u> <u>In preamble, we request comments and data that may help EPA consider other options in the future;</u> <u>e.g., standards similar to wood heaters to avoid competitive imbalance..</u>	N/A	N/A	N/A	Significant emission concerns for areas that have access to cheap/free coal No emission test data for various types of coal. Industry says national rule is unnecessary.
Outdoor fireplaces, chimineas, pizza ovens	<u>Not included</u> in this NSPS proposal due to lack of data on best systems of emission reduction. <u>In preamble, we request comments and data that may help EPA consider options in the future.</u>	N/A	N/A	N/A	No test data

Potential PM_{2.5} Emissions from New Units Sold (tons/year in 5th year, 2017)

Appliance	Baseline (No NSPS changes)	Level I Grouping	Level II Grouping
EPA Certified Wood Stoves	669	669	465
Single-Burn-Rate Stoves	1138	326	?
Pellet Stoves	243	243	219
Fireplaces (90% manufactured, 10% site-built)	843	408	408
Indoor Forced-Air Furnaces	3717	372	372
Hydronic Heaters (90% outdoor, 10% indoor)	1627	162	81
Masonry Heaters	30	30	30
Coal Stoves	140	?	?