

November 9, 2012

Gina McCarthy  
Assistant Administrator  
EPA Office of Air and Radiation  
USEPA Headquarters  
Ariel Rios Building  
1200 Pennsylvania Avenue, N.W.  
Mail Code: 6101A  
Washington, DC 20460

Dear Assistant Administrator McCarthy:

On behalf of the millions of Americans represented by our public health and environmental organizations, we strongly urge the U.S. Environmental Protection Agency (EPA) to propose revised health-protecting New Source Performance Standards (NSPS) for highly polluting wood combustion devices without delay.

Our request follows repeated calls by states, clean air agencies and other groups to clean up harmful pollution from such as wood combustion devices. In 2005, the states of New York, Connecticut, Maryland, Massachusetts, Michigan, New Jersey and Vermont and the Northeast States for Coordinated Air Use Management (NESCAUM) petitioned the agency to list outdoor wood boilers, also called hydronic heaters, as a stationary source category and promulgate strong NSPS for the devices.<sup>1</sup> NESCAUM and the Western States Air Resources Council (WESTAR) sent letters to EPA in 2008 and 2012 requesting the agency update the NSPS for highly polluting wood combustion devices.<sup>2</sup> And on August 28, 2012, the Environmental Council of the States (ECOS) approved a resolution calling on EPA to “act immediately to update the NSPS establishing health protective emission limits” for wood combustion devices.<sup>3</sup> The agency has received numerous other letters over the last decade from citizens, cities, states, air agencies and health and environmental groups impacted by and concerned about the harmful pollution from these devices.

These concerns about the air pollution impacts from governments and citizens across the country reflect the widespread nature of smoke emissions from highly polluting wood combustion devices, and the serious health problems that this pollution creates for families and communities. Wood combustion devices include outdoor and indoor wood-fired boilers (hydronic heaters); indoor heaters; furnaces; masonry heaters; and cook stoves. It is estimated that approximately 14 to 17 million such devices are now in use in the United States.<sup>4</sup> Hydronic heaters in particular have rapidly increased in use in recent years, with annual sales growing ten-fold between 2000 and 2005 – a rate suggesting the installed number of outdoor wood boilers now numbers in the hundreds of thousands.<sup>5</sup>

Collectively, highly polluting wood combustion devices represent a large and growing source of several airborne contaminants that directly endanger human health, including fine particulate matter (PM<sub>2.5</sub>), carbon monoxide, volatile organic compounds, polycyclic aromatic hydrocarbons (PAH), and chlorinated dioxins.<sup>6</sup> These devices are one of the single **largest direct sources of anthropogenic PM<sub>2.5</sub> in the nation**, emitting more than 340,000 tons per year or more than 17 percent of the national anthropogenic total.<sup>7</sup> Smoke from high-emission wood combustion devices represents an even larger share of particulate pollution in areas of the country where such devices are commonly used, such as the Pacific Northwest, Midwest, and Northeast. For example, EPA has estimated that smoke from these devices contributes 25% of wintertime PM<sub>2.5</sub> pollution in parts of New Hampshire and Wisconsin, and more than 50% of wintertime PM<sub>2.5</sub> in Tacoma, Washington and Sacramento, California.<sup>8</sup> Regional monitoring commissioned by the New York Energy Research and Development Authority has also found that smoke from highly-polluting wood combustion devices is responsible for potentially dangerous short-term “spikes” in PM<sub>2.5</sub> concentrations in towns and villages in rural areas.<sup>9</sup>

EPA has also concluded that smoke from high-emission wood combustion devices accounts for a significant proportion of nationwide emissions of certain hazardous air pollutants – including 44% of total stationary and mobile emissions of polycyclic organic matter, and 62% of total PAH emissions,<sup>10</sup> many of which are known or probable human carcinogens.<sup>11</sup>

A substantial body of scientific literature indicates that emissions from highly polluting wood combustion devices are associated with increased incidence of asthma and other respiratory problems, especially in young children.<sup>12</sup> Particulates emitted by these devices, especially hydronic heaters, have health impacts disproportionate to the absolute level of emissions because these sources are located close to the ground and in close proximity to homes and businesses.

The first and only time EPA promulgated NSPS for these devices was in 1988 – despite EPA’s clear legal mandate under the Clean Air Act to review and update its NSPS every eight years.<sup>13</sup> Moreover, the current antiquated NSPS apply only to a narrowly defined subset of new wood combustion devices, and do not apply to other increasingly popular devices such as hydronic heaters, pellet stoves and masonry heaters.<sup>14</sup> Yet over the nearly quarter century since EPA promulgated the NSPS, advanced technologies to significantly reduce emissions from all classes of wood combustion devices have been developed and demonstrated. Many wood combustion devices with emission rates far below EPA’s current standards are on shelves and in use today. Furthermore, standards far more protective than the current NSPS have been successfully implemented in the European Union, leading to a dramatic improvement in the efficiency of these devices and a 99% reduction in their carbon monoxide emissions.<sup>15</sup> Far from harming the market for wood combustion devices, these more protective standards have been accompanied by rising demand. The Agency has failed to uphold its legal obligation to update the NSPS to reflect such developments and ensure continued reductions in emissions from these devices. We respectfully request your leadership in addressing this serious air pollution problem.

In the absence of EPA action, states and localities have been forced to take steps on their own to protect their residents from smoke emitted by highly-polluting wood combustion devices. Washington State has adopted more protective emissions standards, and some jurisdictions have banned the use of hydronic heaters.<sup>16</sup> Such state and local clean air measures are vital, but EPA leadership is also essential to ensure all Americans are protected from these harmful contaminants — especially given the far-reaching market for wood combustion devices. Accordingly, **we respectfully urge EPA to swiftly adopt rigorous, health-protective standards for highly polluting wood combustion devices that reflect the best system of emission reduction that has been adequately demonstrated.** We also urge EPA to develop emissions testing methods that reflect the true, real-world performance of such devices. This will allow EPA to accurately identify the top performing systems.

EPA's recent proposal to strengthen the national ambient air quality standard for fine particulate matter presents the most recent science on the harmful health impacts of particulate pollution and underscores the need to update the NSPS. We strongly and respectfully request EPA promulgate health protective standards that include all highly polluting wood combustion devices and reflect the best system of emission reduction. These standards are necessary to protect all Americans from the harmful health impacts of wood combustion and help states meet life-saving, health-based ambient air quality standards.

Sincerely,

Center for Biological Diversity  
Clean Air Council  
Clean Air Task Force  
Clean Air Watch  
Clean Water Action  
Earthjustice  
Environment and Human Health Inc.  
Environmental Advocates of New York  
Environmental Defense Fund  
Environmental Law and Policy Center  
Families for Clean Air  
Group Against Smog and Pollution (GASP)  
Hoosier Environmental Council  
Idaho Conservation League  
Izaak Walton League of America, Porter County Chapter (IN)  
Midwest Environmental Advocates  
Minnesota Center for Environmental Advocacy  
Moms Clean Air Force  
Natural Resources Defense Council  
Oregon Environmental Council

Safe Air for Everyone  
Save Our Summers Northwest  
Sierra Club  
Wyoming Outdoor Council

Cc:

Steve Page, Director, OAQPS  
Peter Tsirigotis, OAQPS  
Lydia Wegman, OAQPS  
Lorie Schmidt, OGC

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<sup>1</sup> Letter from New York Attorney General Eliot Spitzer to EPA Administrator Stephen L. Johnson, *Petition for rulemaking under 42 U.S.C. § 7411(b)(1) Regarding Outdoor Wood Boilers*, August 11, 2005.

<sup>2</sup> Letter from NESCAUM Executive Director Arthur Marin and WESTAR Executive Director Dan Johnson to EPA OAQPS Director Steve Page, *Performance Standards for Wood -burning Devices*, April 29, 2008; Letter from NESCAUM Executive Director Arthur Marin and WESTAR Executive Director Dan Johnson to EPA Administrator Lisa Jackson, *New Source Performance Standard for Residential Wood Burning Devices*, August 3, 2012.

<sup>3</sup> ECOS Resolution 12-3, REGARDING NEW SOURCE PERFORMANCE STANDARDS FOR RESIDENTIAL WOOD BURNING DEVICES, Approved August 28, 2012, Colorado Springs, Colorado.

<sup>4</sup> Philip R.S. Johnson, *In-Field Ambient Fine Particle Monitoring of an Outdoor Wood Boiler: Public Health Concerns*, Human & Ecol. Risk Assessment 1153, 1156 (2006)

<sup>5</sup> NESCAUM, *Assessment of Outdoor Wood-Fired Boilers*, Page 3-3 (2006). Available at: <http://www.nescaum.org/documents/assessment-of-outdoor-wood-fired-boilers> See also New York State Office of the Attorney General, *Smoke Gets in Your Lungs: Outdoor Wood Boilers in New York State*, Page 5 (Mar. 2008) (estimating 22% annual growth rate in national OWB sales for 2004-2007, and estimating that over 188,000 OWBs were installed from 1999 to 2007).

<sup>6</sup> See, e.g., Gil Wood, Residential Wood Heaters New Source Performance Standards (NSPS): Current Draft Revisions, Slide 4 (presentation dated Mar. 1, 2011) (Wood 2011); Gil Wood, Residential Wood Heaters New Source Performance Standards (NSPS): Public Outreach on Draft Proposed Rule, Slides 5-6 (presentation dated Feb. 9, 2012) (Wood 2012).

<sup>7</sup> U.S. EPA, National Emissions Inventory 2008 accessed on September 11, 2012.

<sup>8</sup> Wood 2012, Slide 6.

<sup>9</sup> See NYSERDA, *Spatial Modeling and Monitoring of Residential Woodsmoke Across a Non-Urban Upstate New York Region* xvii-xix, 4-1 (Feb. 2010) (Finding that in a seven-county area of upstate New York, “very high spikes in woodsmoke concentrations” of over 100 micrograms per cubic meter were observed and that 26% of the monitored population was exposed to elevated residential woodsmoke). See also David R. Brown & Nancy Alderman, *The Dangers to Health From Outdoor Wood Furnaces* 16 (2010) (finding short-term levels of PM<sub>2.5</sub> that were between four times and nine times EPA’s 24-hour National Ambient Air Quality Standard in four homes located near outdoor wood boilers).

<sup>10</sup> Wood 2011.

<sup>11</sup> EPA, Technology Transfer Network Air Toxics Website, *Polycyclic Organic Matter (POM)*. Available at: <http://www.epa.gov/ttn/atw/hlthef/polycycl.html> Center for Disease Control, *Toxic Substances Portal: Polycyclic Aromatic Hydrocarbons (PAH)*. Available at: <http://www.atsdr.cdc.gov/toxfaqs/tf.asp?id=121&tid=25>

Rybicki BA, Neslund-Dudas C, Nock NL, Schultz LR, Eklund L, Rosbalt J, Bock CH, Monaghan KG. 2006. Prostate cancer risk from occupational exposure to polycyclic aromatic hydrocarbons interacting with the GSTP1 Ile105Val polymorphism. *Cancer Detect Prev.* 30:412-422.

<sup>12</sup> See, e.g., Luke P. Naeher et al., *Woodsmoke Health Effects: A Review*, 19 *Inhalation Toxicology* 67, 82-87 (2006) (reviewing studies of wood smoke exposure and health impacts); Johnson, 1154-55 (“Numerous

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studies have found that exposure to the concentrations and durations of wood smoke associated with residential wood burning can cause a variety of adverse respiratory effects. These include increases in respiratory symptoms, decreases in lung function, visits to emergency departments, and hospitalizations”); Pernille Høgh Danielsen *et al.*, *Oxidative Stress, DNA Damage, and Inflammation Induced by Ambient Air and Wood Smoke Particulate Matter in Human A549 and THP-1 Cell Lines*, 24 Chem. Res. Toxicol. 168 (2011).

<sup>13</sup> 42 U.S.C. § 7411(b)(1)(B).

<sup>14</sup> See 40 C.F.R. §§ 60.530(h) (exemptions for fireplaces, boilers, furnaces, and cookstoves), 60.531 (defining “residential wood heater”).

<sup>15</sup> NESCAUM *et. al.*, *Biomass Boiler and Furnace Emissions and Safety Regulations in the Northeast States: Evaluation and Options for Regional Consistency* (2009).

<sup>16</sup> Utah Air Quality Rule R307-208. Available at:

<http://www.rules.utah.gov/publicat/bulletin/2012/20120801/36481.htm>

Wood Stove Information, Washington State Department of Ecology. Available at:

[http://www.ecy.wa.gov/programs/air/indoor\\_woodsmoke/wood\\_smoke\\_page.htm](http://www.ecy.wa.gov/programs/air/indoor_woodsmoke/wood_smoke_page.htm)

Wood-fired Hydronic Heaters Information, Washington State Department of Ecology. Available at:

[http://www.ecy.wa.gov/programs/air/outdoor\\_woodsmoke/Wood\\_boilers.htm](http://www.ecy.wa.gov/programs/air/outdoor_woodsmoke/Wood_boilers.htm)