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Testimony of Northeast States for Coordinated Air Use Management on Proposed Rule: Standards of Performance for New Residential Wood Heaters, New Residential Hydronic Heaters and Forced-Air Furnaces, and New Residential Masonry Heaters

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Good morning. My name is Lisa Rector, and I am a Senior Policy Analyst with NESCAUM, the Northeast States for Coordinated Air Use Management. NESCAUM serves the eight northeast states' air agencies in their efforts to provide clean air for the region. My testimony today reflects the position of all but one of our member agencies. As you heard this morning, the State of Maine has a different point of view on some aspects of the proposed rule.

The U.S. EPA's proposed revisions to the Residential Wood Heater New Source Performance Standards (NSPS) have been a long time in coming. EPA first promulgated rules for wood heating devices in the 1980s, but has not revisited these since then, during that time the market has exploded with a variety of new device types not covered by the initial standards. States have attempted to address these issues but have determined that federal standards are necessary to ensure that wood combustion devices address the public health and air quality issues created by high emitting devices.

From a public health perspective, residential wood smoke presents a real and present danger. Residential wood combustion is one of the largest direct sources of particulate matter pollution. The pollution occurs in locations where the public's exposure is greatest – at home and in neighborhoods where people live. Studies have correlated acute and chronic wood smoke exposure with adverse health outcomes, such as increases in respiratory symptoms, decreases in lung function, premature death in people with lung or heart disease, nonfatal heart attacks, and aggravated asthma. These health threats make implementation of a revised health-protective rule critical, as well as long overdue.

Furthermore, continuation of exemptions and outdated emission standards is limiting the U.S. market for high efficiency, low emitting devices, and fosters the continued sales of technologically inferior products.

In order to burn cleanly, you need three things: (1) well designed devices, (2) appropriate fuels, and (3) proper owner operation. Any of these elements can create smoke, and we support EPA's efforts in this proposed rule to address all of these components.

Wood heat technology has advanced significantly since EPA's existing standards were phased-in more than 20 years ago. Worldwide, many countries have moved to enact broad reaching efforts to address emissions for a variety of pollutants, whereas in the United States, regulations have only focused on particulate matter from woodstoves. For example, European countries have placed emission limits on particulate matter, carbon monoxide, nitrogen oxides, and volatile organic compounds for all wood burning devices. These have resulted in technology performance improvements that have increased average efficiency from 55% to more than 90%, while average carbon monoxide (CO) emissions have decreased 99%.[1]

In the United States, we have not seen similar technology improvements. Domestic residential wood burning devices marketed today typically have annual efficiencies ranging from 25-70%, well below that of devices sold in Europe. Furthermore, a domestically produced wood burning central heating unit can emit, based on EPA's own study, an average of 15 pounds of particulate per day. For comparison, this is as much health-damaging particulate matter as emitted by 250,000 residential natural gas boilers. Moving to the Phase 2 limits will reduce emissions significantly and minimize air quality impacts.

[1] Musil-Schläffer, B., *et al.*, *European Wood-Heating Technology Survey: An overview of Combustion Principles and the Energy and Emissions Performance Characteristics of Commercially Available Systems in Austria, Germany, Denmark, Norway and Sweden*, NYSERDA, April 2010. Available at: http://www.nyserda.ny.gov/Publications/Research-and-Development-Technical-Reports/Other-Technical-Reports/European-Wood-Heating-Technology-Survey.aspx.

In order that buyers can make informed choices about the devices they purchase, the NESCAUM states support expanded reporting of not only particulate matter but also carbon monoxide and device efficiency. The NESCAUM states also request that EPA work with the U.S. Department of Energy to create minimum efficiency standards for residential wood heating devices. These are the only residential heating devices not required to meet Department of Energy minimum efficiency standards.

Also important is the universe of devices covered under EPA's proposal. The current outdated standards exempt broad categories of devices, including fireplaces, masonry heaters, pellet stoves, indoor/outdoor wood boilers, and indoor/outdoor wood furnaces. The NESCAUM states support efforts to create more inclusive requirements for residential heating equipment and to develop source category definitions that eliminate loopholes to ensure that all residential wood heating devices are required to meet an emission standard. States have experienced difficulties in regulating based on whether a unit is placed indoors or outdoors, or if it heats water or air. This proposed rule recognizes the reality that all units must provide similar emissions performance.

Timing is also important. Implementing stricter emission standards for exempted devices, such as hydronic heaters, furnaces and single burn rate stoves, as soon as possible is critical to obtaining air quality benefits. Currently exempted wood burning units also receive an economic advantage over regulated devices while creating significant smoke and health problems around the region.

While EPA's proposed rule has a number of positive aspects, we have concerns with the current EPA certification test method. The potentially greatest public health issue from wood combustion is associated with high-level, short-term particulate emission spikes that are not captured by the current test method. The current procedure averages emissions over a full fuel charge. These runs can last from 2 to 40+ hours and include in the average what is referred to as the "charcoal tail" (a long period where the unit operates at very low emissions). As a result, the current test procedure does not adequately capture high emissions that can initially occur when a

unit is refueled. In addition, the use of oak as the test fuel for hydronic heaters can significantly underestimate emissions from other, less dense fuels. Testing data indicate that emissions with fuels such as birch and Douglas fir can be 200 to 400 percent greater than those with oak. Therefore, we recommend that EPA support the development and use of an alternative test method that better reflects the real-world operation of wood burning devices and standardizes procedures to the greatest extent possible across all devices.

Pellet fuels are another area of concern. With increasing use of pellet fuels for residential home heating, the make-up of those pellets and the potential impact from their use is increasing in importance. EPA has proposed that the industry establish a pellet quality standard. NESCAUM conducted a study and found that these products can contain significant levels of metals and other harmful contaminants, which can significantly increase toxic emissions and potentially damage high efficiency equipment. The current Pellet Fuel Institute (PFI) standard will not identify pellets that contain contaminated wood (such as pressure treated and painted wood); therefore, we propose that EPA examine the potential of employing standards used in other markets where wood fuels have strict product specifications.

The NESCAUM states believe that EPA's final rule should encourage the development and sale of advanced technologies in the near-term. It should also accommodate a smooth transition to cleaner burning units across categories by allowing manufacturers to continue to sell most current technology devices for a period of time while they design for the future.

In conclusion, NESCAUM supports adoption of rigorous and achievable emission limits for all sources affected by this proposal. Promoting the early installation of the cleanest devices is imperative because once installed, they typically remain in use for many years afterwards.

NESCAUM will continue to examine all aspects of the proposal and will provide more specific written comments into the docket. We look forward to working with EPA and other stakeholders to ensure an effective final rule.