

May 2, 2006

Contact – Laura Scatena

**Workgroup Recommendations and Other Potential Control Measures**  
**Homes and Restaurants Workgroup**

**HR007 – A Multi-Stage Approach for Wood Burning Issues at the Local Level**

**DESCRIPTION**

Over the years, a growing trend in homeownership is to burn wood in yards for ornamental reasons (1). Firepits and chimeneas have become increasingly popular in the most densely populated State in the nation. Another new source of emissions come from outdoor wood boilers used to heat hot water that in turn heats the home (see HR-006). As the usage has grown, a growing number of citizens have turned to local, county, and state government to get relief from the activities of their neighbors. New Jersey citizens also have filed complaints regarding wood smoke but quantitative information is unknown at this time. Often, these people complain of respiratory or breathing difficulties from the wood smoke or other disease where the symptoms are exacerbated by the wood smoke and state that they must close all their doors and windows when their neighbor burns wood in their yard. Due to the quality of life concerns and health-related aspect at the individual level, the control measure focuses on strategies that target controlling wood smoke at the local level to reduce nuisance complaints.

The New Jersey Air Pollution Control Act specifically exempts one and two family dwellings from its provision effectively removing New Jersey Department of Environmental Protection (NJDEP) and some County Environmental Health Act (CEHA) agencies as an enforcement arm from its coverage (1). A 1995 amendment to the Act also removed the ability of a municipal or county government to pass an ordinance more stringent than the State law. While a county or municipality could possibly use the authority of a general nuisance or health statute to regulate outdoor wood burning, it is unlikely that they have done so. The result is that a seemingly growing number of residents are becoming exasperated by the inaction of government at all levels to solve their health and quality of life issues with breathing wood smoke.

**IMPLEMENTATION**

New Jersey Air Pollution Control Act Amendments

In order for a multi-stage approach to be implemented, the Air Pollution Control Act needs to be amended to allow for county or local ordinances that restrict or prohibit outdoor wood burning within all or sections of their municipality or county. This will place the authority and responsibility at its proper place at the local level. At the present time, the Air Pollution Control Act does not prevent homeowners from conducting open burning activities, such as leaf burning, at their homes, although many “grand-fathered” ordinances do exist at the county and municipal level (1). It also does not allow municipalities to regulate outdoor wood burning activities in their communities (1). Current NJDEP policy is to pass wood smoke complaints to the county and local health agencies. The county and local agencies, for the most part, are powerless to intervene in the absence of county or municipal ordinances.

Ordinances

Even in other states, such as California, wood smoke is an increasing problem (2). As a result, several cities and counties in California have implemented local ordinances on wood smoke, which include permitting and installation provisions. There are twelve air districts rules on wood smoke in California. The State could adapt or adopt any of these rules so that New Jersey municipalities can enact local ordinances for their area. The Bay Area Air Quality Management District (BAAQMD) has a model ordinance for its cities or counties (3). The State

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could modify this model ordinance to be utilized by New Jersey’s counties or municipalities.

Permit Conditions

As part of the multi-stage approach for outdoor wood boilers (see HR-006), one of the phases included establishing provisions on minimum chimney height and distance to houses or property lines. One option for New Jersey is to adapt or adopt Vermont’s proposed regulations or Connecticut’s law for all outdoor wood burning equipment (4, 5, 6). However, legislation for setting distances to property lines for residential residences would be needed because the Air Pollution Control Act one or two family dwellings from being regulated (1). Local governments could administer a local permit program for these units to ensure that they are located properly and meet the building codes after the New Jersey Department of Community Affairs (NJCA) adopts standards pursuant to the Uniform Construction Code for outdoor wood burning equipment subsequently after the NJDEP adopts emissions standards for those units. Vermont’s regulations include the following conditions:

1. “Installation of an outdoor wood boiler must be at least 200 feet from the nearest neighboring residence;
2. The stack on the furnace must be higher than the [peak of the roof]<sup>1</sup> if the furnace is between 200 feet and 500 feet from the nearest neighboring home;
3. The outdoor wood boiler must comply with local ordinances and its operation must not create a nuisance;
4. Dealers and sellers of outdoor wood boilers must provide buyers with a legal notice stating that: only untreated natural wood may be burned; installation is subject to the distance and stack height requirements stated above; and that the OWB, even if meeting the above requirements, may not be used if the terrain is inappropriate and renders the OWB to be a nuisance or public health hazard. This legal notice must be signed by both the buyer and seller and filed with the Air Pollution Control Division of Vermont prior to delivery of the OWB to the buyer” (p. 17, 4).

The approach taken by the State of Connecticut is a “common sense” way of dealing with the local issues (1). In Connecticut, a Public Act 05-227 was enacted that limited the location of these units to within 200 feet from the nearest residence, effectively banning their use in more densely populated communities (5). Minimum stack height was also regulated: “[any OWF installed after July 11, 2005] Must have a chimney that is more than the height of the roof peaks of residences located within 500 feet of the OWF, provided the chimney height is not more than 55 feet” (p. 1, 5).

Adopting standards for outdoor wood burning equipment is discussed in HR006: Multi-Stage Approach to Outdoor Wood Burning Equipment.

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<sup>1</sup>“Roof line” has been changed to “peak of the roof.” *Proposed Rule (ver. 7/28/2005). Chapter 5 - Air Pollution Control, Subchapter II: Prohibitions.* (2005). Environmental Protection Regulations, Air Pollution Control Division, Vermont Department of Environmental Conservation, Vermont Agency of Natural Resources.  
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Enforcement

Consideration of whom will enforce these provisions should be made with discretion given to the county and municipalities to have enforcement by a combination of health, environmental, police, or fire officials at the discretion of the county or local agency (1). This last consideration must establish a clear line of authority and responsibility to enforce the local laws so that a homeowner clearly knows whom to contact to resolve the issue.

**COST**

Revisions to Vermont’s proposed regulation on the siting and stack height standards for outdoor wood boilers, which included new emission standards for outdoor wood boilers, were concluded to not have a significant economic impact because the manufacturer could still sell the units outside Vermont (6, 7). The conclusion was similar to the conclusion reached when the siting and stack height standards were implemented in 1997 because Vermont only had one outdoor wood boiler manufacturer and the dealers could still sell other types of heating systems that sell wood such as indoor wood stoves. The cost to homeowners would be the cost of the permit for the outdoor wood burning equipment. Sacramento Metropolitan Air Quality Management District (SMAQMD) staff noted that there would be no cost to homeowners to implement a voluntary or mandatory curtailment program, which correlates with the local ordinance component of this control measure (8).

**EMISSION REDUCTIONS**

While implementing strategies to reduce nuisance complaints from residential wood burning (as to the time, quantity, or type of material burned) may not greatly improve the overall air quality in the State, the quality of life issue for some New Jersey citizens will be improved if a multi-faceted approach is taken (1). The amount of emissions reduced would depend on the compliance rate of the area under local ordinances (8). Residential wood burning accounted for 9,363 tons per year (tpy) of fine-particulate matter (PM<sub>2.5</sub>) in New Jersey in 2002 (1). In some of the most densely populated parts of the State and within the towns that have the greatest likelihood of experiencing neighbor-to-neighbor effects, the multi-faceted approach would effectively prohibit the wood burning activity from occurring. Vermont concluded that having siting criteria under their rule, Air Pollution Control Regulations (APCR) §5-204, was not enough to reduce the amount of smoke and pollutants being emitted from outdoor wood boilers to decrease the number of nuisance complaints and health effects as a result of these units (9). The model ordinance used as an example includes mandatory action, which may increase the compliance rate. A mandatory curtailment program implemented in the San Joaquin Unified Air Pollution Control District (SJUAPCD) estimated a maximum of 78% emission reductions (8).

**COST-EFFECTIVENESS**

The cost-effectiveness would be increased if the various components of the strategy were implemented simultaneously, as each component targets a specific aspect of local wood burning issues. However, no quantitative information is known at this time.

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