

Bay Area Air Quality Management District
939 Ellis Street
San Francisco, California 94109

APPROVED MINUTES

Advisory Council Public Health Committee Meeting
10:00 a.m., Tuesday, April 11, 2006

- 1. Call to Order – Roll Call.** Chairperson Bramlett called the meeting to order at 10:00 a.m. Present: Jeffrey Bramlett, Chairperson, Cassandra Adams, Steven Kmucha, M.D., Linda Weiner, Brian Zamora. Absent: Janice Kim, M.D., Karen Licavoli-Farnkopf.
- 2. Public Comment Period.** There were no public comments.
- 3. Approval of Minutes of February 14, 2006.** Ms. Adams moved approval of the minutes; seconded by Mr. Zamora; carried unanimously.
- 4. Woodsmoke Abatement.** Jim Nolan, Director of Compliance, Puget Sound Clean Air Agency presented “The Puget Sound Wood Smoke Control Program, April 2006.” He stated that wood smoke abatement has been underway in the Puget Sound area since the 1980s, when serious particle (PM) problems were found in industrial areas. The high concentrations were initially thought to have originated in industrial operations, but it turns out that they were primarily derived from wood combustion from the surrounding residential community.

Mr. Nolan noted that two thirds of geographical territory in the Puget Sound agency is comprised of national forests and parks. The region has a population of four million people, approximately 1.2 million residences and 350,000 fireplaces and over 200,000 wood stoves. The types of units include certified stoves, pellet stoves, open fireplaces and uncertified units.

Data sets of PM_{2.5} at continuous monitoring sites in the Seattle suburb of Lake forest Park, and from the Duvamish Valley area, in which concentrations of emissions from wood combustion vary significantly, show that PM_{2.5} increases at 6:00 pm each night when residents return home from work, and decreases when residences retire for sleep in the evening.

Washington State has established more stringent emission standards for new wood-burning appliances than the federal Environmental Protection Agency (EPA). These impose limits on all existing wood stove and fireplaces include opacity standards, legal fuel types, burn bans and nuisance smoke laws. The Puget Sound agency promotes the change to a cleaner form of residential heating, pollution prevention, burn bans, responses to complaints, public education, and discourages the installation of wood burning devices in new residential developments.

The change-out of wood burning appliances involves the promotion of cleaner forms of residential heating. Joint projects often occur with the Puget Sound agency and hearth products and utilities, as well as promotional campaigns and programs by gas companies and other companies. The change-out program is paid for by a \$30 fee that is imposed on the purchase of

new woodstoves or fireplaces in Washington. The Puget Sound agency has also established a policy that excludes all civil penalties collected by the agency from supporting agency operations. These are instead applied to publication and other activities, such as supporting the woodstove change-out and incentive programs including the disposal of old wood stoves. Supplemental environmental projects are also sought out and implemented, such as the program at Boeing Corporation with its 100,000 employees, that provides large information and communication networks. The Puget Sound agency partners with this company in terms of arranging penalty mitigation in which company funds pay for the cost of changing out employee wood burning appliances. Funds to support such programs have also been obtained from permit mitigation. In one case, a saw mill that installed a large wood fired boiler paid for the wood stove change-outs for its employees. The Puget Sound agency also supports wood smoke media campaigns, and partners with fire departments during burn bans, which educates people on wood smoke health effects.

Pollution prevention programs provide instruction on the correct use of wood burning devices, weatherization programs that encourage residential installation of more insulation to reduce heating requirements, and the use of compressed wood fire logs for open fireplaces in particular. The latter reduce emissions of wood smoke by a range of 70-90% for the casual wood burner.

Calling and enforcing burn ban programs occurs at two stages: the Stage I trigger is $35 \mu\text{g}/\text{m}^3$ for $\text{PM}_{2.5}$ and the Stage II trigger is $60 \mu\text{g}/\text{m}^3$. These must occur over a 24-hour period and be predicted to continue into the next day. Wood combustion in the Stage I alert is prohibited unless it is the sole source of heating in the residence. At Stage II, wood burning is prohibited without exception. These alerts provide major opportunities for public education. During a Stage I ban, news networks announce the event; however, public education only goes so far, and must be buttressed with enforcement. On the following morning after a Stage I alert, agency inspectors begin their rounds and focus on neighborhoods with high concentrations of wood smoke. With opacity readers, they evaluate smoke from chimneys. State law allows 20 minutes of smoke in excess of opacity standards every three hours for start-up. If they see a house emitting significant smoke, they use digital cameras equipped with date and time stamps to record the event, and return half an hour later to take opacity rating, and if the smoke has not abated, the residence is issued a notice of violation. In such cases, the issue that wood combustion is the sole source of heating does not arise. Upon receipt of a notice of violation, a resident has three choices: (a) if the wood combustion unit was an uncertified stove or fireplace, the old unit can be disposed of and upgraded; (b) if the unit is certified, the resident can visit the dealer and receive training on proper use, and the dealer will send the agency a letter indicating that the resident has received training, or (c) the resident can pay the violation fee of \$1,000. In cases of residential emissions, about half derive from rental facilities. When the landlord finds out that renters use wood combustion devices incorrectly, the devices are usually removed. In 2006, there have been ten burn ban days, and 50 violation notices, one of which paid the violation fee.

The process for agency response to complaints is as follows: the complainant receives and completes a complaint form and files it with the agency which then informs the resident about whom the complaint has been filed. The agency sends a brochure regarding PM health effects to the resident in question and requests a written response to the complaint, noting that a copy of the same will be forwarded to the complainant. Anonymous complaints are not accepted and the follow-up process is not confidential. The agency sends that response to the complainant. If there are subsequent complaints, the agency sends an inspector to the location to check for violations. About 200-300 complaints are filed each year with the agency.

If there are violations observed as a result of the complaint, then the agency will take necessary enforcement action, but if there are none, then the case is closed. In some cases, only mediation between neighbors will lead to a resolution. In about 90% of the complaints, no further filings are received, as the receipt of a complaint is often sufficient to resolve the situation. In the case of the remaining 10%, an inspector will be sent to speak with each party. There are some instances in which a complaint is lodged for reasons other than actual wood smoke emissions. In other situations, when excess burning occurs at night, there is nothing the agency can do about that. In some cases where an inspector cannot help the parties resolve a dispute, they are referred to a professional mediator. The agency pays for the mediation, which is \$250 per session, and for the most part this has proven successful.

The agency promotes public education regarding wood smoke abatement, and partners with the American Lung Association on producing information on the health effects of wood smoke as well as the legal restrictions on wood burning activities. There are media releases during burn bans, brochures, website information, links to health sites and an electronic mailing list.

Agency efforts to discourage installation of wood combustion devices in new residences, and especially in condominiums, has not made a great deal of headway thus far.

Advice from the Puget Sound agency to the Bay Area AQMD regarding augmentation of its wood smoke abatement efforts would include the following:

- Patience – this will take years. People are in denial: burning is in our genes.
- Compressed wood fire logs are a cost effective option for open fireplaces (and have a huge potential for emission reduction, without significant capital investment requirements).
- Most importantly: focus the message on the wood smoke, and not on the wood burner. There is a strong political support for wood heating. There is no political support for wood smoke.

In response to questions, Mr. Nolan noted the following:

The town of Barrington, Washington is a rural community that is 40 miles from the nearest natural gas line and has a predominance of wood burning residences. Measurements of PM found levels two to three times in excess of the federal health standard. Residents have used wood heating there for generations. In working with the town council, the agency crafted a program to provide incentives to switch to a cleaner form of heat, including installation of a certified wood stove, pellet stove or a propane/oil heat system. The agency also offers to pay for the retrofit and installation of the systems: approximately \$2,500 for propane, \$1,200 for a pellet stove, and somewhat less for a certified wood stove less. The relative emission reduction is important to the agency as is the participation of the town in the solution of the problem. This year, 50 out of the 350 residences have elected some form of upgrade.

The agency provides information regarding the health effects of wood smoke, referencing the American Lung Association which indicates that emissions from wood combustion, especially carbon monoxide, are significant indoors. The agency also informs people that wood

combustion is inefficient on a BTU basis, and in the Pacific Northwest it is three times more costly than natural gas.

The agency did approach wood smoke abatement on a voluntary basis for the initial year that the program went into effect. When more mandatory approaches were adopted, significant challenges were encountered both in terms of cooperation and the receipt of adverse press.

With regard to exemptions from standards, and appeals of violation notices, an administrative hearing board does review appeals of penalties. The agency emphasizes that a wood burning device was excessively smoking during a burn ban day, for example, and not whether the device is certified or the only source of heating in the home. The only issue at the hearing concerns whether or not the penalty is reasonable. Typically, appeals of violation notices are very rare. The process is the same as for the appeal process that an industry would use to appeal a penalty.

The program went from a voluntary to a mandatory phase rather quickly as that is how the legislation set it up, with an initial year or two for practice. The agency was able to convince the hearth products companies that it was in their best interest to persuade their customers to acquire modern, certified devices. With regard to obtaining other “triggers” for changing-out old wood burning devices, such as at the point-of-sale or the remodeling of a house, these were very controversial and the dispute continues. In large urban areas, these measures are not trivial to the real estate community. Such matters will likely be revisited in the future when the federal PM standards are ratcheted down, and more stringent measures will have to be adopted. The prohibition on installing wood burning devices in new developments must come back to the table. Members of the design community continue to feature fireplaces and woodstoves in real estate advertisements as these have a sales attraction and the agency has had no traction with it.

Jami Aggers, Compliance Manager, Compliance Division, San Joaquin Valley Unified Air Pollution Control District stated that her air district is now in its third year of its woodsmoke abatement program. It has not implemented a change-out program at this time nor does it impose fees upon the purchase of wood burning devices. The requirements are that, at the point of sale, devices must be EPA Phase II or Pellet Fuel devices. Upon the change of property ownership, any non-Phase II device must be removed or disabled. An additional document in the escrow process requires a signature that the new owners are adhering to the rule, and the agency files that documentation. With regard to new construction, there are no exceptions allowed to the rule that there must be at least a half an acre or more distance in new construction from another residence in order to qualify for a wood burning device. This “density” requirement mandates no more than two homes with fireplaces per acre. Additional requirements in the sale of wood address levels of moisture content.

Programmatic curtailment of wood burning occurs at two different air quality index levels: the “discouraged” or voluntary level is between a particulate matter (PM₁₀) range of 100-150 ppm and anything above that triggers a mandatory burn stage. From 2003-04, two mandatory curtailment days occurred and between one and 53 voluntary curtailment days throughout the eight counties in the district. During 2004-05, three mandatory curtailment days occurred and between 60 and 44 voluntary curtailment days. During 2005-06, there have been 19 mandatory curtailment days, between 14-34 voluntary curtailment days. There were no exceedances of the PM₁₀ exceedances, and the SJVUAPCD believes that attainment has been demonstrated. The decision of the Environmental Protection Agency (EPA) on this matter is pending.

Over 400 complaints were filed during this wood burning season. Violation notices are issued only when smoke is seen and recorded on a date- and time-stamped digital camera. Violation notices are mailed, as personal contact between residents and inspectors can be confrontational. The district has added a new component to Compliance School for general burning citations which contains a fireplace training component and recipients of violation notices that attend get a fee reduction or waiver.

The wood smoke abatement program was difficult to get off the ground. It is critical to engage in public outreach, to bring stakeholders to the table, and to hold public meetings where people can be heard. Some individuals believe wood burning is an inalienable personal right while others believe that no one should ever again be permitted to burn wood in the fireplace.

The day before a mandatory curtailment notice is to be issued, inspectors are prepared to be sent out the next day to survey areas with intensive complaints. Staff do not inspect in the evenings if they have inspected during the same day. If complaints occur on weekends, the district seeks inspectors to volunteer to work after regular shifts.

Ms. Aggers presented a copy of the request for exemption form, which is mailed with each violation notice. Exemptions are given for homes with sufficient distances from another residence, or if natural gas is unavailable and wood is the only source of home heating. The district may also grant a one time season exemption for hardship cases.

The process works well and the district usually resolves the issues arising from a complaint. Sometimes a warning notice is sent to a resident or owner. The threat of issuing citations in the first year of the program was highly unpopular with the public, therefore the district issued only warnings in the first year. Although such letters were sent, it was not possible to verify the smoke, and therefore this part of the program was abolished. All residents that received a warning letter complained about it.

In response to questions, Ms. Aggers stated:

- There are few situations in which wood is the sole source of heating a home and that same home is in a neighborhood with many residences closely aligned.
- Very few “one time” exemptions are issued, and after they are received, the resident is expected to make the appropriate change in heating methods for the home when the exemption expires. However, for extreme hardships, the agency will consider granting a second year of exemption.
- There is no variance process in the San Joaquin Valley air district for a violation notice.
- The requirements for removing old equipment upon change of residential ownership and upgrade to a type II wood burning device, as well as the limit of two homes equipped with wood burning devices per acre, were arrived at after discussion in public meetings that were very well attended.
- Primary stakeholders to this process were firewood, presto log and hearth product vendors.
- The ordinance on woodstove appliances applies only to new development and not retroactively to older residences. However, one subdivision did recently equip a large

number of new homes with wood burning devices, and the contractor is going back to retrofit the units with artificial fire log devices.

Chairperson Bramlett called for public comments, and the following individual spoke:

Jenny Bard
American Lung Association

Ms. Bard stated that the discussion of wood smoke abatement is not new in the Bay Area. A burn ban and a moisture content rule for fuel were proposed in the Bay Area, but the proposals had not moved forward owing to a lack of leadership. The local public is fairly well educated on wood smoke issues, and there is no public support for wood smoke. Many of the measures implemented in the Puget Sound air district could be quickly adopted in the Bay Area. Although a voluntary ordinance is available for adoption in the region, litigation is often required to prevent a neighbor from further wood burning. There is a lack of enforcement regarding wood smoke in the Bay Area. The Public Health Committee should identify best practices and urge the District's governing board to adopt them.

Chairperson Bramlett stated that the next steps would be to obtain additional presenters on this subject from the hearth products and real estate communities. Peter Hess, Deputy Air Pollution Control Officer, stated that District staff would arrange for presenters from these fields.

Chairperson Bramlett stated that the Committee would start work on indoor air quality and asthma on or about its July meeting.

5. **Committee Member Comments/Other Business.** There were none.
6. **Time and Place of Next Meetings.** 12:30 p.m., Wednesday, May 10; 10:00 a.m., Tuesday, June 13, and 12:30 p.m., Wednesday July 12, 2006, 939 Ellis Street, San Francisco, CA 94109.
7. **Adjournment.** 11:19 a.m.

James N. Corazza

James N. Corazza
Deputy Clerk of the Boards