



**Summary of Comments Received by the Missoula City-County Health Department
Regarding the Proposed Revisions to the Missoula City-County Air Pollution
Control Program**

July 7, 2009

Chapter 4

Comment: Restricting wood burning during the winter during inversions will create undue economic hardship on those who rely on wood for heat.

Response: These regulations are an effort to protect the long term ability to heat homes via burning wood by A) reducing PM_{2.5} on days when the health standard may be breached and B) requiring new stoves that are installed be cleaner burning devices. By doing this we reduce the potential to become an EPA designated non-attainment area in which further restrictions on using woodstoves would be likely.

The proposed regulations reduce the potential ability to heat homes via burning wood on as a few days as possible – only when the health standard is threatened. Those who rely on wood as their sole source of heat will be able to get a sole source of heat permit which allows them to burn cleanly during Alerts in the Air Stagnation Zone or during Warnings in Impact Zone M.

Chapter 9

Comment: These woodstove regulations should only be applied in the Air Stagnation Zone or Impact Zone M, not county wide because only the urban area has air quality issues. Citizens cited that where they live they do not notice any air quality issues and they always have wind.

Response: Fine particulate matter pollution is a region-wide problem which both originates in and affects urban and rural areas. During inversion conditions, PM_{2.5} settles along the lowest elevational gradients which include bowls and river bottoms. Airshed 3A drains westward across the county following the Clark Fork River. Airshed 3B in the Seeley Lake Region is narrow with a population that relies heavily on wood burning for heat. As the Seeley Lake region and other rural parts of the county grow, an increase in woodstoves will overwhelm the local air in these communities. To help reduce emissions from individual woodstoves in all regions of the county, excluding the Swan drainage in Airshed 2, the department recommends that new stove installations be clean-burning stoves. Permits are necessary to ensure only approved stoves are installed.

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Comment: Multiple citizens commented that air quality should be checked throughout the county. It was specifically asked if monitoring had been done in Greenough, Potomac or Nine Mile areas.

Response:

The department has monitored for PM<sub>2.5</sub> has been done in the city of Missoula, Frenchtown, Seeley Lake, and Bonner/Milltown. PM<sub>2.5</sub> levels have been found to be elevated at all of these sites. With the knowledge we have of the airsheds, airflow patterns and the dispersion characteristics of PM<sub>2.5</sub>, we know that rural areas of the county can be affected by or contribute to elevated PM 2.5 levels.

We have a responsibility to protect a large portion of Missoula County from increasing PM<sub>2.5</sub> levels. A study is planned for the Bitterroot Valley, including Florence and Lolo and a number of sites in the valley this winter to look at PM<sub>2.5</sub> levels. Seeley Lake will also be receiving a real-time monitor for PM<sub>2.5</sub> in the next six months as their Community Council requested.

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Comment: These regulations will create undue economic hardship on those who rely on wood for heat.

Response: These regulations are an effort to protect the long term ability to heat homes via burning wood by A) reducing PM_{2.5} on days when the health standard may be breached and B) requiring new stoves that are installed to be clean burning devices. By doing this we reduce the potential to become an EPA designated non-attainment area in which further restrictions on using would be likely.

The proposed regulations reduce the potential ability to heat homes via burning wood on as few days as possible – only when the health standard is threatened. Those who rely on wood as their sole source of heat in Impact Zone M and outside the Air Stagnation Zone will be able to get a sole source of heat permit which allows them to burn cleanly during Warnings. During a Stage I Alert, residents in Impact Zone M and outside the Air Stagnation Zone will still be able to use their woodstoves.

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Comment: Woodstove use should not be restricted but encouraged because beetle killed and thinned wood from fire-wise projects are an abundant local resource, using wood can reduce our dependence on fossil fuels, and burning wood is carbon neutral.

Response: The department recognizes the benefits of burning wood and supports the regulated use of wood for heating. The proposed regulations balance these benefits with the need for clean air and Montanan's right to a clean and healthful environment. The federal standard is based on hundreds of studies across the county that show elevated PM<sub>2.5</sub> levels caused an increased risk in heart attacks, strokes, asthma, bronchitis, and other respiratory problems. By protecting the health based standard with these regulations, we help protect the long term viability of wood as a heat source.

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Comment: A woodstove change out program should be pursued *inside* the Air Stagnation Zone. The department is not addressing the 1300 old style woodstoves in the Air Stagnation Zone.

Response: The Department has concerns with a woodstove for woodstove (as opposed to pellet stove) change out program in the Air Stagnation Zone. As property changes ownership, older stoves are required to be removed. With the growing valley population, it would not be responsible or fair to allow the installation of new woodstoves to a few people in the urban area while telling everyone else no. If people do install a new stove, there is incentive to burn more wood and so produce more emissions than if the old stove had remained.

Tracking and enforcement of a woodstove for woodstove change out program would be very difficult or impossible with the resources available. It would be very easy for people who have not sold their property since 1994 but have no woodstove to circumvent the rule and install a woodstove.

One proposal is to allow a woodstove for woodstove change out program in the Air Stagnation Zone, and still require the new stove to be removed when the property changes ownership. However, resistance to removing a new efficient stove from a property would be inevitable. Also, the use of public money or tax rebates for woodstoves that have to be removed when the house is sold is not the most efficient use of public funds. A better use of public money would be to encourage installation of devices that could remain when a property changes ownership. That would mean approved pellet stoves in the Air Stagnation Zone.

Frequently, woodstoves are operated differently in people's homes and shops than how they are tested in a laboratory. How the woodstove is tested in a laboratory does not reflect how the devices are operated or what fuel is used once the devices are in the real world setting. Emissions for woodstoves are higher outside of the laboratory setting. So when people show a woodstove with an emission rating similar to a pellet stove, real world emissions for the woodstove would most likely be higher than the pellet stove which has a more controlled fuel and combustion process.

Since the current woodstove regulations have been incorporated into the State Implementation Plan and have been approved by the EPA, we would need to convince the EPA that relaxing our rules is justified and would not cause an increase in emissions. This rule change would take some time and may not succeed since we are close to exceeding the daily PM_{2.5} standard. To allow the installation of woodstoves in the Air Stagnation Zone, advertising and a public hearing would need to be done because this idea is outside the scope of the current proposed rule changes.

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Comment: Fireplaces in the Air Stagnation Zone should be required to install an insert stove meeting 1 gram/hour emissions.

Response: Fireplaces are primarily used for aesthetic and recreational reasons on a more infrequent basis than heating devices. If fireplaces were fitted with insert stove there would be a greater incentive to use these devices more frequently as a primary heating device, thus increasing particulate emitted into the airshed during the winter.

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Comment: Fireplaces are used for looks and since they are not used much they should not be prohibited.

Response: Airsheds throughout Missoula County can only take a limited amount of particulate emissions before the health based standard is exceeded. Allowing the continued installation of fireplaces, which provide limited heat and have high emissions compared to other wood burning devices, is not the best way to allocate our limited emissions budget. Since many people heat their residences with wood for economic reasons and additions to the emission budget need to be limited, efficient wood burning devices that provide heat should be given a preference over fireplaces for new installations. The proposed regulations do allow the potential for fireplaces if specific designs can meet the emissions criteria. (Given the limited amount of emissions before we meet the health based standard, emissions should be from heat generating devices.)

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Comment: A woodstove change out program should be pursued *outside* of the Air Stagnation Zone.

Response: Changing out older stoves in areas outside of the Air Stagnation Zone for newer more clean burning stoves could be beneficial if these stoves are already being used regularly and will continue to be used frequently in the future. The department is supportive of this idea but the funding is difficult to procure. Local government federal stimulus money has already been allocated to other projects. It is very unlikely that Missoula City or Missoula County will see any stimulus money for a woodstove change out program.

The tax incentives will need to be the motivator for the installation of cleaner burning pellet stoves and woodstoves in Missoula County. A federal tax credit of 30% of the cost or up to \$1500 currently exists for putting in approved biomass burning devices into pre-existing homes. In new construction as well as existing homes, ground source heat pumps, solar, and wind energy systems are eligible for the same tax credit.

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Comment: The comment questioned if the proposed 40% opacity standards could be reasonably enforced and economically feasible.

Response: The department has certified smoke readers on staff that pass a national exam each 6 months to read smoke opacity as it comes out of a stack. Opacity readings can be taken instantaneously with little additional resources other than visual observation.

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Comment: Current regulations require all devices under 1 Million BTU's of heat output to emit no more than 7.5 g/hr particulate emissions. Multiple parties commented that this regulation is unfairly restrictive to heating units larger than Phase 2 Hydronic Heaters but smaller than 1 Million BTU output. The proposed rule provides incentive to install more smaller systems instead of an advanced heating system serving a number of buildings or houses.

Robert Harrington, representing Montana Department of Natural Resources (DNRC) and Debbie Austin, representing the Lolo National Forest suggested setting a standard of 1 gram/hour per 10,000 BTU's of heat output for all devices up to 1 Million BTU's. They stated that this was consistent with the department's current pellet stove standard.

Matt Arno also commented on the restrictive nature of the regulations on heating units smaller than 1 Million BTU's heat output. He suggested that devices be allowed throughout the county at 1.4 gram/hour per 10,000 BTU's of heat output.

Response: The department reviewed the comments and recommends that solid fuel burning devices with the potential to produce between 400,000 and 1 Million BTU's be allowed in Missoula County outside the Air Stagnation Zone, provided they have average emissions equal to or less than 0.45 grams/hour per 10,000 BTU's. This is based on the proposal for devices above 1 Million BTU's scaled down to 10,000 BTU. The department is recommending that sources above 1 Million BTU's produce no more than 0.1 pounds/hour per million BTU heat input, which is equivalent to 45 grams/hour emissions per million BTU's. If you scale this down in 10,000 BTU increments, you get 0.45 grams/hour emissions per 10,000 BTU's, the recommended interval.

Because the airsheds in Missoula County are extremely sensitive, we are already at the public health standard, we encourage the use of emerging technologies to reduce the emissions of any new biomass projects. Even with these low emissions standards, changing current ultra-low or non-PM<sub>2.5</sub> producing energy sources such as natural gas and propane over to higher PM<sub>2.5</sub> emissions sources like biomass projects could threaten the public health standard. For these reasons, the department is cautiously proposing a scaled approach to emissions from biomass sources in the 400,000 to 1 Million BTU range. Under this approach, biomass energy sources that can provide heat for multiple buildings would be allowed outside the Air Stagnation Zone provided they can meet the emissions standards.

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Comment: Education on how to burn correctly is a key issue.

Response: The department views education as a critical component to reducing PM_{2.5} emissions. During the open house session's staff presented on ways to burn cleanly including storing wood properly, burning dry/seasoned wood, and burning a hot, clean fire. Past actions by the department include television and radio ads to help inform people about how to burn cleanly.

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Comment: Commenter was in support of Chapter 9, Option B (over Option A) because it allows EPA Phase 2 Hydronic Heaters.

Response: The department is also in support of Chapter 9, Option B.

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Comment: "Put the responsibility on the woodstove retailers to not sell the woodstoves where they can't be used."

Response: The department works with woodstove retailers to try to make sure they are aware of the stoves which meet our regulations. Banning the sale of woodstoves in this county that cannot be used here would decrease Missoula retailer's ability to sell to neighboring counties where these regulations do not apply. Since Missoula is the largest city within a few hours, that has a potentially negative consequence for retailers and those trying to buy stoves from outside of Missoula county. Also, this would not affect sales of stoves from private sources such as the newspaper and online classifieds. To reduce emissions we need to make sure old stoves are taken out of service once they are replaced with more efficient units.

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Comment: A legal representative on behalf of hydronic heat manufacturer, Central Boiler, Inc. stated that the setbacks, chimney height, and a maximum burn rate restrictions proposed are too strict. They suggested a maximum burn rate of 18 grams/hour for any test burn.

Response: The department is not recommending any new or amended setbacks or chimney heights at this time. Chapter 9, Option 1 proposes a maximum burn rate of 10 grams/hour for any test burn. Chapter 9, Option 2 proposes a maximum burn rate of 18 grams/hour. The department is in support of Option 2 at this time.

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Comment: Costs for getting a permit will be too high for the public to handle. Administration and enforcement of permits is not a good use of public funds.

Response: The current installation permit for pellet stove costs \$22. Installation permits are a one time expense, needed for the installation of the device and do not need to be renewed. The county building department already requires a mechanical permit to inspect the installation of solid fuel burning devices at a charge of \$41. The health department would like to work with the building department if possible to combine their mechanical permits needs with any potential county-wide woodstove installation air quality permits.

Comment: Allow non-pellet devices that can emit 1 gram/hour emissions or less to be installed in the Air Stagnation Zone.

Response: Currently the regulations allow pellet stoves to be installed in the Air Stagnation Zone. Pellet stove operation and emissions are more consistent than stick burning devices. Even though there are stick burning devices that are rated to burn a 1 gram/hour, their real emissions are more dependent on human operation than pellet stoves. These stoves have the potential to emit more particulate than pellet stoves due to poor operation, burning of illegal materials, burning wet or unseasoned wood, overloading the stove, or reducing air flow. On the contrary, pellet stoves will not operate if they are improperly used. The installation of regular wood burning devices in the Air Stagnation Zone has the potential to increase the total PM_{2.5} emissions and is contrary to the State Implementation Plan we have with the EPA to reduce PM_{2.5} emissions.

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Comment: Allow masonry heaters in Missoula County. Add the term masonry heater to the definition of solid fuel burning device and state explicitly that they are allowed.

Response: Masonry heaters which meet the design guidelines set up by the International Residential Code (IRC) and built under ASTM E1602 would be allowed under the current proposed regulations in both Chapter 9, Options A and B.

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Comment: The department received comments on Outdoor Burning regulations which are not under review at this time. The comments focused on the potential conflict between smoke from outdoor burning and smoke from woodstoves. Multiple parties thought that outdoor burning impacted PM_{2.5} levels as much or more than woodstoves, that outdoor burning impacted their ability to burn their woodstoves, and that outdoor burning should not be allowed during inversions. One person noted that more burning should be allowed during the winter.

Response: The department engages in active management of outdoor burning and tries to minimize the conflict between woodstoves and outdoor burning through the following ways: 1) Outdoor burning is generally not allowed during December, January, and February – the coldest and worst months for inversions. Last year only 4 burns were approved in Dec-Feb and these were small brush piles that went through the wintertime burning program. 2) During the fall, outdoor burning is only open on days with good dispersion. Major burners such as the Forest Service and Plum Creek must coordinate with the county and Montana Department of Environmental Quality contracted meteorologists to get the go ahead to burn. Small amounts of outdoor burning are allowed during the winter if it meets the criteria of the wintertime burning program. 3) General outdoor burning is only allowed in the spring when dispersion is best.

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Comment: We received comments that the PM<sub>2.5</sub> problem is directly related to growth in the urban area from vehicles. And that the county should be involved in limiting growth.

Response: Though it is true that many cities have PM<sub>2.5</sub> problems, rural areas with topography such as ours also have PM<sub>2.5</sub> problems. Chemical mass balance studies completed in Missoula in the winter of 2007 and also throughout Western Montana in places like Hamilton and Libby, show that the major source of PM<sub>2.5</sub> in Western Montana is wood combustion not transportation. Because air sinks during an inversion and gets trapped in mountain valleys, a relatively small number of woodstoves can fill an airshed with PM<sub>2.5</sub>.

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Comment: City Council member, Stacey Rye, stated that she supports the proposed regulations because they attempt reduce the health hazards associated with high levels of PM_{2.5}.

Response: The department also feels that these regulations are necessary to protect public health. The goal of these regulations is to reduce or stabilize PM_{2.5} emissions, especially during pollution events, so that we reduce our chances of becoming a non-attainment area.

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