4.14.7.0 Emissions Reduction Measures

PM_{10} emissions in the AQMA have been substantially reduced through a suit of emission reduction measures developed and implemented over approximately 25 years (to address both TSP and PM_{10}). These strategies include emission limits on select industrial processes, the residential woodstove curtailment program, restrictions on residential open burning, street cleaning, replacement of noncertified woodstoves in low income homes, a ban on installation of non-certified woodstoves, and public education. The following sections provide a summary of these emission reduction programs.

4.14.7.1 Residential Wood Combustion Strategies

Beginning with the work of the Jackson County Woodburning Task Force 1987, the Department, Advisory Committee, and local AQMA jurisdictions have developed and implemented strategies to reduce emissions from residential wood burning. Section 189(a)(1)(C) of the Clean Air Act requires states with moderate PM_{10} nonattainment areas to assure that reasonably available control measures are implement by no later than December 10, 1993. The residential woodburning strategies were developed over several years and fully implemented with the adoption of a mandatory woodstove curtailment program in 1989.

The woodburning strategies focus on three basic approaches: (1) The improved performance and lower emissions of newer certified woodstoves; (2) attrition of older, high emission woodstoves over time; and (3) episodic emission reduction by prohibiting the use of woodstoves and fireplaces during predicted air stagnation events.

The woodburning strategy also includes a public information program that ensures awareness of the regulations, and stresses energy conservation as well as wood burning practices (such as firewood seasoning) that result in better combustion and better energy efficiency. Both of these practices result in lower emissions. No direct emission credit is taken for the public information program but it is a vital part of the woodburning strategy.

Woodburning Curtailment: A voluntary woodburning curtailment program (with daily advisories from November through February) began on November 19, 1985. Jackson County curtailment surveys during 1985-88 indicated an average compliance rate of about 25% under the voluntary program. The City of Medford adopted a mandatory woodburning curtailment program on November 2, 1989. Curtailment surveys within the City of Medford during 1989-90 indicated over 80% compliance. The City of Central Point adopted a mandatory woodburning curtailment program on December 21, 1989. A mandatory curtailment program was subsequently adopted for Jackson County.

Curtailment participation surveys conducted during the last exceedance period (1990-1991) showed compliance rates averaging 90% in the critical Medford area, and 88% in the core Medford-Central Point area. Curtailment compliance averaged approximately 66% in other parts of the curtailment control area. The combination of curtailment and public education

strategies, as well as an overall trend away from woodheating has significantly reduced woodstove emissions in the AQMA from historic levels.

Woodsmoke Program Up-date

In 1998, the Air Quality Advisory Committee recommended improvements to the existing mandatory residential woodsmoke strategy as a step to reduce the risk of future violations of the new ($PM_{2.5}$) particulate standards. Improving the current strategy involved adopting a model ordinance for woodstove curtailment that applies consistent requirements throughout the AQMA. A model unified ordinance was developed by the Committee and is patterned closely after the existing ordinance in Jackson County. The main points of the ordinance include:

- Burning in noncertified woodstoves is prohibited on yellow and red advisory days.
- Burning in certified stoves would be allowed on yellow and red advisory days but owners would be held to a "no visible emissions" standard.
- A 50% opacity limit would help reduce smoke year round.

Aligning the existing Medford and Central Point woodstove curtailment ordinances to a unified approach required minor changes to incorporate the no visible emissions approach. On balance the Department and EPA believe that the unified approach (minor modification to existing ordinances, adding new areas to the curtailment program) will strengthen the overall woodstove strategy in the AQMA.

The unified ordinance applies in Jackson County, as well as the cities of Ashland[1], Central Point, Jacksonville, Medford, Phoenix, and Talent. The City of Eagle Point will continue to be encouraged to adopt the unified woodburning ordinance. Copies of local ordinances can be found in Appendix A-4.

The residential woodburning advisory (Red, Yellow, or Green) is calculated daily by assessing particulate concentrations and trends measured by the local nephelometer (located at Grant Ave. & Belmont Streets, Medford). Nephelometer data is used in combination with the local ventilation index and weather forecast to derive a predicted PM_{10} value for the next 24-hrs. General thresholds for the woodburning advisory are as follows:

Green Day: Predicted PM_{10} level less than 90 ug/m^3.
Yellow Day: Predicted PM_{10} level between 90 ug/m^3 and 129 ug/m^3.
Red Day: Predicted PM_{10} levels 130 ug/m^3 or more.

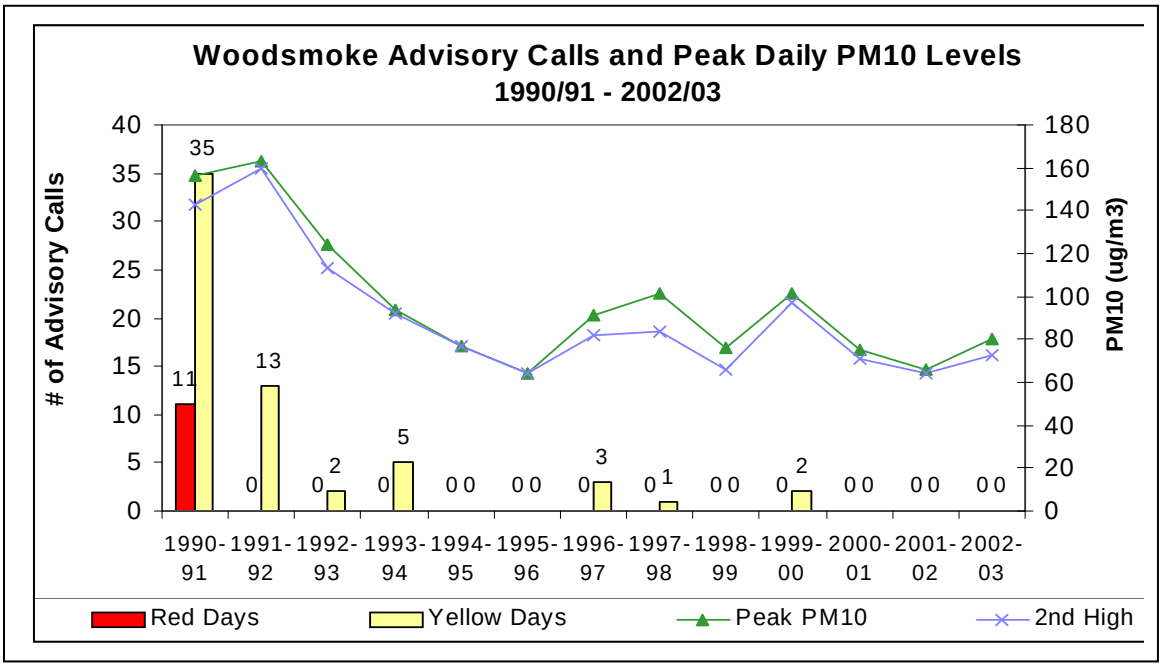
The daily advisory is made by Jackson County air program staff, and is based on both the predictive formula and on local knowledge and experience of air quality and weather patterns. The advisory is provided to the public every day during the woodheating season by 5:30 a.m. The county also maintains a phone number the public can call to hear the

[1] The City of Ashland's woodsmoke ordinance limits opacity to no more than 40%.

daily advisory. During the 2002/2003 woodheating season, the county received 18,614 calls.

Woodstove use and emissions have significantly decreased in the AQMA since the early 1990's. It has not been necessary to call a Red Day advisory since the 1990/91 woodburning season. Occasional Yellow Day advisories are necessary, and reflect the continuing potential for elevated PM_{10} levels during stagnation events. The lack of Red Day advisories is consistent with recent PM_{10} trends and the significant decrease in peak PM_{10} levels measured at Welch & Jackson and White City since 1991. Figure 66 shows the trend in Red and Yellow Day woodsmoke advisories.

Figure 66: Trend in Woodstove Curtailment Advisories and Peak PM_{10} Levels



The attainment modeling analysis shows the potential for occasional high PM_{10} levels in the east Medford area. During the winter of 2003/2004, the Department conducted a special particulate study to evaluate wintertime PM2.5 levels in different areas of the AQMA. The study included new locations in Medford (including the area of model predicted PM_{10} exceedances), Central Point, White City, and other. The study allowed the Department to assess whether the curtailment program Nephelometer (located at Grant & Belmont) is located in the most appropriate area to capture residential woodheating patterns in the AQMA. The Department is currently reviewing results with the County. Early indications are that the Grant & Belmont is the best location for the curtailment program nephelometer. Refinements to the woodstove curtailment program could be made as needed based on the study results.

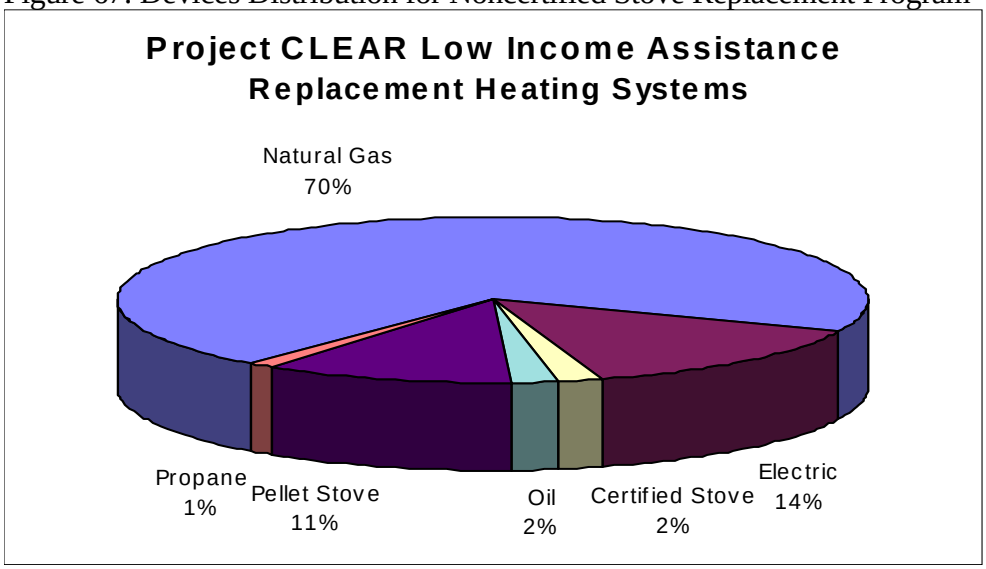
Woodstove Replacements: The Housing Authority of Jackson County began Project CLEAR (Cooperative Local Effort for Air Resources) in 1988 to replace woodstoves with cleaner burning units and provide cost-effective weatherization in low-income homes. Low

income, woodburning homeowners are most likely to use older (high emitting stoves), have the highest fuel consumption (because of low stove efficiency), and can receive a hardship exemption from the woodstove curtailment regulations. Assisting this population to reduce emissions is a key part of the woodsmoke strategy.

About $1.8 million in funding from various sources has been obtained to date for the CLEAR project. The City of Ashland also implemented the SOLVE program (Save Our Livability, View and Environment) in July 1990. The SOLVE program also provides financial incentives (zero-interest or low-interest loans or rebates) for weatherization and the replacement of existing woodstoves.

To date, the Jackson County Housing Authority has replaced approximately 580 noncertified woodstoves in low income homes with cleaner burning alternatives, primarily natural gas. Figure 67 shows the distribution of heating device types selected to replace noncertified stoves removed under the CLEAR program. In addition to the replacement program, the Housing Authority requires that any woodstove be removed as a condition of the housing rehabilitation contract. This means that woodburning will continue to decline over time within the low income housing population.

Figure 67: Devices Distribution for Noncertified Stove Replacement Program



<u>Home Weatherization</u>: Home weatherization incentives (free energy audits, low-interest loans, and rebates) have been available for several years to all homeowners regardless of heat source. ACCESS (the local Community Action Program) has provided free cost-effective weatherization to low-income households. Weatherization of homes prior to installation of a new woodstove has been required by local ordinances of the City of Medford (No. 4732) and Jackson County (No. 82-6) since 1982.

Weatherization programs, combined with programs assisting the replacement of existing woodstoves with cleaner burning units, were expected to reduce woodburning emissions by about 5% by 1992. Other weatherization financial assistance programs, based on current

participation rates, were expected to reduce woodburning emissions by about 3% by 1992. In 1995 WP Natural Gas (now AVista Corp.) completed 132 weatherization upgrades in low income homes, and in 1996, 79 out of 298 upgrades were for low income homes.

Woodstove Certification/Local Code Restrictions: The Oregon Woodstove Certification Program became effective on July 1, 1986. New stoves sold in Oregon since then must meet specified emission standards. Oregon's woodstove emission standards became more restrictive on July 1, 1988, and the EPA woodstove certification program also increased the stringency of woodstove emission performance standards. Changes to local and state building codes has also accelerated the attrition of older stoves. Jackson County adopted a ban on the installation of non-certified woodstoves (to prevent used non-certified stoves from being re-installed) on December 22, 1989. In 1992, the Oregon state building code was revised to prohibit the installation of noncertified woodstoves statewide.

4.14.7.2 Major Industry

The Oregon Environmental Quality Commission adopted specific industrial rules for the wood products industries in the Medford-Ashland AQMA in 1978, 1983 and 1989. The 1978 and 1983 rules included: (1) tighter pollution control requirements for particle dryers, fiber dryers, veneer dryers, large wood-fired boilers, charcoal furnaces, and air conveying systems for sanderdust and sawdust; (2) additional source testing requirements; (3) operation and maintenance plans to prevent or minimize excess emissions; and (4) site-specific fugitive dust control plans. These industrial requirements resulted in a 70% reduction in industrial particulate emissions between 1978 and 1986.

The 1991 PM_{10} strategy for major industry required: (1) tighter emission limits and better pollution control equipment on veneer dryers and large wood-fired boilers; (2) more extensive source testing and continuous emission monitoring in order to maximize performance of pollution control equipment; and (3) more restrictive emission offset requirements for new or expanding industries. These new requirements were projected to reduce industrial PM_{10} emissions by over 20% by the end of 1994, with most of this reduction occurring by 1992.

In 1998, the Advisory Committee recommended two additional interim actions to help address the uncertainty of future PM_{10} impacts from industrial sources.

The first relates to the expected reduction in particulate emissions that will likely occur as a side-benefit of the Maximum Achievable Control Technology (MACT) requirements for hazardous air pollutants. EPA has adopted rules (MACT) to reduce certain hazardous air emissions (air toxics) from particleboard and hardboard manufacturing. It is expected that several major facilities in the AQMA will need to reduce emissions in order to comply with MACT requirements, including the Timber Products, Sierra Pine, and Boise Cascade facilities. MACT applications are due in 2004, with compliance required by 2007.

In 1998, and in anticipation of MACT, the Timber Products facility committed to reduce PM_{10} emissions from their hardboard press vents by at least 90 percent by no later than November, 2003. Timber Products has completed the installation of emission control technology on their press-vents and particle dryers. This equipment is expected to provide a reduction in PM_{10} emissions of over 90%.

The attainment and maintenance modeling analysis show that these emission reductions are not needed to demonstrate compliance with PM_{10} standards. The voluntary reductions at Timber Products will not reduce the facility's allowable PM_{10} emissions. However, the reduction will provide a substantial air quality and public health benefit in the Medford area.

The second action involved an agreement between the Department and the Timber Products facility to temporary restrict ("embargo") the use of 79 tons/year in allowable PM_{10} emissions until the press vent emissions at that facility were controlled. As noted above, press-vent controls have been installed and are operational. This satisfies the 1998 agreement and repeals the embargo on allowable emissions at Timber Products.

Particulate reductions related to MACT are also possible at the Sierra Pine (Medite) facility and several Boise Cascade facilities. MACT applications from these facilities have been received by the Department and are being reviewed. It likely that some particulate reduction will result at these facilities as they comply with MACT standards. Any reduction in actual particulate emissions as a result of MACT pre-control will not reduce allowable permitted particulate levels for these facilities. It will however provide a substantial air quality and public health benefit.

Section 189(a)(1)(C) of the Clean Air Act requires states with moderate PM_{10} nonattainment areas to assure that reasonably available control measures are implement by no later than December 10, 1993. Rules for reducing PM_{10} emissions from major industrial sources were adopted in 1978, 1983, and 1989, and reflect reasonably available control measures (RACM) or better.

Table 16 lists the major PM_{10} facilities in the AQMA, with their main production processes and the current level of emission control technology. Table 17 lists the emission limit rules for major particulate industries in the AQMA. Compliance measurement methods include source testing and continuous emissions monitoring (CEM). Source testing is explicitly required for wood-fired boilers, veneer dryers, wood particle dryers, and charcoal plants. CEM's are required for wood-waste fired boilers, veneer dryers, fiber dryers, and particle dryers. Title V sources are also required to verify applicable emission factors for other processes such as cyclones and baghouses. Source testing, CEM, and emission factor verification requirements are specified in each facility's operating permit. Compliance measurement may also be required by the Department as needed to ensure that sources and air pollution control equipment are operated at their full efficiency and effectiveness.

Table 16: Major PM_{10} Producing Industrial Facilities

SOURCE NAME	EMISSION UNIT	EMISSION CONTROL EQUIPMENT	LAER/BACT
Boise RV Plywood	Boilers Veneer Dryers Plywood Presses	Wet ESP	LAER Lowest Achievable Emission Rate Technology
Murphy – White City	Veneer Dryer Cyclones	Ceilcote ionizing wet scrubber	BACT Best Available Control Technology BACT
White City Plywood	Veneer Dryers Material Handling	Electronic Filter Bed Baghouse	BACT LAER
Royal Oak	Briquette Dryer-NG Briquette Packaging	No controls. Source meets charcoal facility emission limit rule. Baghouse	BACT LAER
Timber Products (N.Medford plant)	Material Transfer Press Vents Plywood Dryers Particle Dryer	Baghouse Baghouse (Oct. install.) Electronic Filter Bed Wet ESP	LAER BACT BACT LAER
Sierra Pine (N. Medford)	Press Vents Boiler –Sander Dust Particle Dryers Material Handling	None. Source meets press vent emission limit rule. Wet ESP Wet Scrubber Baghouses	MACT (will apply for HAPs) LAER BACT LAER
Medply	Two Boilers – NG Material Handling Veneer Dryers	None. Meets Medford boiler rule. Cyclones (2) Baghouse None. Source meets Medford veneer dryer rule.	LAER BACT BACT
Cascade Wood Products	Material Handling	Cyclones (11) 2 to baghouse	BACT
Boise Cascade (N. Medford plant)	3 hog fuel boilers Veneer Dryers (3) Veneer Dryers (3) Plywood Presses (4) Material Handling	Dry ESP RCO (regenerative cat. ox) Wet ESP None. Source meets Medford veneer dryer rule. Baghouses (4)	LAER LAER LAER MACT (will apply for HAPs) LAER

Table 17: Rule Summary: Industrial PM_{10} Sources

Type of Process	Rule Requirement
Wood Waste Boilers OAR 340-240-0110	Rule adopted in 1989 to reduce emissions from existing large wood-fired boilers. Rule established an immediate requirement to meet 0.050 grains/dscf. It also established a compliance schedule to meet LAER level control (determined to be 0.015 grains/dscf at that time). The rule required compliance with LAER by no later than December 31, 1994; or upon powerhouse modernization or expansion, whichever occurred first. To lower permitted baseline emission levels and to provide some operational flexibility, facilities on the compliance schedule were allowed to set Plant Site Emission Limits using 0.030 gr/dscf (BACT level control), but actual boiler emissions had to meet LAER (0.015gr/dscf). All sources successfully met the compliance schedule. Powerhouse modernization projects that can be accomplished within the facility's existing permitted emission level are subject to the Medford rule. Proposed new and expanding power-house projects that trigger NSR are subject to both NSR emission control requirements in Division 224 (LAER), and the Medford rule. The facility would be subject to the more stringent requirement. LAER at that time may be the same or more stringent than the Medford rule established for existing boilers. The Medford rule also includes a 5%-10% opacity limit.
Veneer Dryers (Division 240-0120)	Specifies emission limits for various types of veneer drying processes. The Medford rules were adopted in 1991 to address veneer dryer emissions at existing facilities. Proposed new and expanding veneer dryer projects that trigger NSR are subject to both NSR emission control requirements (Division 224) and the Medford rule. The facility would be subject to the more stringent of LAER as it is determined at that time through NSR, or the emission limits set in the Medford rule. LAER at that time may be the same or more stringent than the Medford rule established for veneer dryers.
Air Conveying Systems (Division 240-0130)	Applies to air conveying systems emitting greater than 10 tons/yr PM. The rule requires installation of control systems that provide at least a 98.5% reduction in emissions. This rule was established to address existing facilities. Future new or expanding facilities are subject to NSR.
Wood Particle Dryers at Wood Particleboard Plants (Division 240-0140)	Wood Particle Dryers can not exceed an emission limit of 0.40 lbs/1,000 square feet of particleboard produced (3/4" basis). Rule also sets a 10%-20% opacity limit. This rule was established to address existing facilities. Future new or expanding facilities are subject to NSR.

Type of Process	Rule Requirement
Hardboard Manufacturing Plants (Division 240-0150)	Establishes emission limits for hardboard plants and associated press/cooling vents. Sets total plant emission limit (excluding press-vents at 0.25 lbs/1,000 sq-ft (1/8" basis); and plant limit (including press vents) of 0.55 lbs/1,000 sq-ft (1/8" basis). Therefore, sets a press/cooling vent limit of 0.30 lbs/1,000 sq-ft (1/8" basis). Proposed new and expanding hard board projects that trigger NSR are subject to both NSR emission control requirements (Division 224) and the Medford rule. The facility would be subject to the more stringent of LAER as it is determined at that time through NSR, or the emission limits set in the Medford rule. LAER at that time may be the same or more stringent than the Medford rule established for existing hardboard production.
Wigwam Waste Burners (Division 240-0160)	Rule prohibits the operation of a wigwam burner.
Charcoal Producing Plants (Division 240-0170)	Rule establishes emission limits for charcoal producing plants. Establishes total allowable emission limit for plant at 10 lbs of PM per ton of char produced.
Fugitive Emissions (Division 240-0180)	Requires many facility types to prepare and implement plans for controlling fugitive dust within their facility. For new and expanding sources subject to NSR, this rule would be considered part of LAER level control for the facility.
Requirement for Operation & Maintenance Plans (Division 240-0190)	Requires facilities to develop and implement an operation and maintenance plan to ensure the most efficient operation of the facility, and reduce and quickly correct any unintentional emission upsets. Required for Title V sources. Rules language establishes applicability.
Continuous Emissions Monitoring (Division 240-0210)	Requires instrumentation for measuring and recording emissions and/or process parameters that affect emissions, to ensure that air pollution control equipment is operated at full efficiency and effectiveness. Rule applies to wood-waste boilers, veneer dryers, fiber dryers, and particle dryers. CEM for these sources was required by no later than July 1, 1992 (w/one year extension possible). Rule was developed to address existing sources. CEM would be required as needed for new and expanding sources going through NSR.
Source Testing (Division 240-0220)	Rule requires periodic testing of emissions compliance: covers wood-waste boilers, veneer dryers, wood particle dryers, and charcoal plants. These rules apply to existing sources. Source test requirements for new and expanding facilities will be established by the Department case-by-case.
New Sources (Division 240-0230)	Requires new sources to comply with applicable Medford rules in addition to any NSR requirements. The more stringent requirement will

Type of Process	Rule Requirement
	apply.
Open Burning (Division 240-0250)	No open burning of domestic waste is allowed on any day or any time when the DEQ advises the general public that open burning is banned.

Note: In addition to Oregon NSR and maintenance plan requirements, federal major sources are also subject to requirements of the Prevention of Significant Deterioration (PSD) program.

4.14.7.3 Open Burning Strategies

Local ordinances throughout the AQMA restrict the practice of residential open burning. Below is a summary of local open burning restrictions[2].

Open burning is prohibited:

- Throughout Jackson County when the Ventilation Index (VI) is forecast below 400.
- Within the AQMA during November[3], December, January and February.
- At all times within the city limits of Medford and Jacksonville.
- During fire season as declared by the Oregon Department of Forestry.

Jackson County's air program staff and the Department's regional staff monitor and enforce open burning regulations as necessary. The open burning program also includes a significant effort for public outreach and education. Staff routinely make field visits to homeowners to provide educational materials, warnings, and citations as needed. A summary of local open burning ordinances can be found in Appendix A-4.

Alternatives to Burning: The public information program encourages alternatives to open burning, including composting and the transport of material to a local biomass energy production company (BioMass One). In addition, the State of Oregon offers a 35% tax credit toward the purchase of a wood chipper. This program seeks to help homeowners afford an alternative to open burning, especially in the urban/rural/forest interface areas where land clearing is conducted for fire safety.

4.14.7.4 Road Dust Strategies

PM_{10} emissions generated by motor vehicle traffic (road dust) have been reduced over the years through efforts to pave unpaved roads, curb and gutter shoulders on paved roads, minimize the use of sanding material, and to control mud and dirt trackout from industrial, construction and agricultural operations. Paving and other dust abatement projects are identified in the Regional Transportation Plan.

In addition, street cleaning programs are in place for the City of Medford, White City,

[2] Summary taken from Jackson County Air Quality Annual Report 2003, Jackson Bauers-Environmental Health.
[3] Jackson County may allow open burning up to November 15th, as long as air ventilation criteria are met.

and the connecting transportation corridor (Highway 62). Jackson County recently used CMAQ[4] funding to purchase a high efficiency street sweeper for use in the Medford-White City area. This street cleaning program is considered by the Department to be a Transportation Control Measure (TCM) for reducing particulate pollution. At a minimum, the cleaning program must continue to use a high efficiency, vacuum street sweeper(s) (or equivalent), provide geographic coverage that includes the cities of Medford, White City, and significant intervening travel corridors, and provide cleaning frequency no less than twice per month. (see Appendix A-6).

4.14.7.5 Other Strategies

Prescribed Forestry Burning

The Oregon Smoke Management Plan established an emission reduction goal for prescribed burning in Western Oregon with steadily decreasing emission targets between the 1976-79 baseline and the year 2000. Prescribed burning levels in recent years have been well below the emissions goal. In the future, prescribed burning is expected to increase over current levels to address forest health and fire safety issues. In the short term, burning levels may stay below the emission reduction goal established in the Smoke Management Plan (SMP). However, the Department is concerned about proposed future increases in prescribed burning. The state Smoke Management Plan is currently undergoing review and will be updated in 2005. The Department is participating on the SMP advisory committee and will ensure the continued protection of sensitive areas such as the Medford-Ashland AQMA.

Agricultural Trackout

The Jackson County Fruit Growers League has developed a policy to help reduce particulate emissions from roadway trackout. The trackout policy has been distributed to members of the Fruit Growers League and hobby agriculturists. Agriculturists will continue their voluntary efforts to reduce PM emissions by chipping and grinding their prunings and orchard removals. They will continue to use wind-machines and irrigation-related frost protection as a means to reduce reliance on orchard heaters. A copy of the Fruit Growers League policy is included as Appendix A-5.

4.14.7.6 Implementation of the Control Strategy

The initial PM_{10} attainment strategy for the AQMA was adopted by the Environmental Quality Commission and local jurisdictions in 1991. Compliance by major industry has been monitored by the Department. Implementation of the woodsmoke strategies has been accomplished through intergovernmental agreements between the Department and Jackson County. County air quality program staff operate the public information program, provide daily curtailment forecasting, and perform woodstove and open burning monitoring and enforcement. County staff also facilitate on-going partnerships between air quality program staff from all jurisdictions in the AQMA.

[4] Congestion Mitigation and Air Quality

4.14.7.7 Schedule for Implementation: On-Going Process

The original control strategies adopted in 1991 will be maintained. The woodstove curtailment program will be evaluated in light of new PM survey information (available spring 2004). The curtailment program may be modified as needed based on survey results. Road paving and other dust reduction projects will continue to be identified in the Regional Transportation Plan. While not required, PM_{10} emission reductions related to the MACT requirements for major industries are expected by 2007.

The Department will also continue work to address significant air quality issues affecting the AQMA. Of special interest is the impact of diesel trucks in the AQMA, air toxics, the planned increase in prescribed burning, and changes to the particulate strategy that may be needed in response to EPA's review and update of particulate standards (PM_{10} and $PM_{2.5}$).

4.14.8.0 Major New Source Review

New Source Review (NSR) is the program that governs emission increases from new and expanding major industry. The most restrictive NSR requirements apply in nonattainment areas, and these have been in effect in the AQMA for many years. Once an area is redesignated to attainment, the Clean Air Act provides an opportunity to design a more flexible NSR Program.

The NSR program includes three major elements:

- Significant Emission Rate (trigger level for the NSR process).
- Emission Control Technology Requirements.
- Air Quality Analysis and Emissions Growth Restrictions (airshed management).

While the Clean Air Act offers the opportunity to ease some New Source Review requirements in attainment areas, Rogue Valley communities have expressed a desire to retain the more stringent nonattainment area requirements for new and expanding major industry to better protect future air quality and public health in the Valley. These include:

- Significant Emission Rate: Based on the recommendation of the Medford-Ashland Air Quality Committee, the Significant Emission Rate (SER) for PM_{10} in the AQMA will continue to be 5 tons/year and 50 lbs/day. This will allow future industrial emission increases to be closely tracked and managed.

- Emission Control Technology: New and expanding major sources must install state-of-the-art emission control technology known as Lowest Achievable Emission Rate (LAER). The Medford-Ashland Air Quality Committee has recognized that while LAER is generally the more costly emission control approach, it is also the cleanest and most protective of public health. Continuing to require new and expanding industry to install LAER technology also provides

equity for older existing facilities that have already invested significantly in state-of-the-art emission controls.

- Emission Offsets: New and expanding sources must obtain emission offsets at a ratio of 1:1.2 and produce a net air quality benefit. Citizens of the Rogue Valley have expressed their desire to retain this rigorous airshed management approach to better protect public health.

Once redesignated to attainment for PM_{10}, the Medford-Ashland AQMA will be both an Oregon PM_{10} Maintenance Area and a federal PM_{10} attainment area. In addition to Oregon requirements for New Source Review, federal requirements for the Prevention of Significant Deterioration (PSD) must also apply to federal major sources. Federal major sources are those facilities with emissions[5] of 250 ton/year or more, or specific industry types (listed in OAR 340-200-0020(25)) with emissions of 100 tons/year or more.

The PSD program includes emission control technology requirements for new and expanding industrial facilities; as well as two different air quality analysis requirements designed prevent a violation of federal PM_{10} standards, and limit the amount of air quality degradation that can occur from industrial emission increases. Any new or expanding federal major source will have to meet the more stringent of the Oregon NSR or federal PSD requirements. It is expected that the Oregon NSR requirements will be the more stringent.

4.14.9.0 PM_{10} Contingency Plan

A process must be established in the maintenance plan to quickly prevent or correct any measured violation of PM_{10} standards. This process of investigation and (if needed) corrective action is called the "contingency plan". Contingency plans typically have several stages of action depending on the severity of PM_{10} levels. Ambient PM_{10} thresholds are established in the contingency plan as early-warning action levels (one for the daily standard, another for the annual average standard). If monitored PM_{10} levels exceed these action levels, the contingency provisions are triggered.

If early-warning thresholds are exceeded, the first action will be an evaluation of relevant air quality data to determine why the triggering event occurred (i.e. was it a one time event or uncontrollable event such as a forest fire, or does it indicate a more serious and on-going problem). If circumstances warrant, the local advisory committee could be reconvened to assist the Department in reviewing air quality data, as well as the initial growth assumptions in the air quality plan to determine if any significant changes have occurred since plan adoption. The committee and Department could take corrective action as needed.

[5] Criteria pollutants such as PM10, CO, VOC

The Medford-Ashland PM_{10} contingency plan would be triggered if measured PM_{10} levels at either of the two PM_{10} monitoring sites (Medford or White City) exceed the early-warning thresholds below, or if a violation of PM_{10} standards occurs.

Phase 1: Risk of Exceedance

If monitored PM_{10} levels exceed 120 ug/m^3 (24-hr avg.) or 40 ug/m^3 (annual average), DEQ will assess the probable emissions and meteorological events contributing to elevated PM_{10} levels. At the Department's discretion, the Medford-Ashland Air Quality Advisory Committee may be convened to assist the Department in their review. The Department and Committee could recommend that no action be taken if it is determined that: (a) elevated PM_{10} levels were caused by an event that is unlikely to occur again within the maintenance planning timeframe, or (b) high PM_{10} levels were caused by an uncontrollable event such as a forest fire. If it is determined that the event was caused by conditions that could occur again, the Department and Committee will evaluate options for appropriate action, including the option for additional emission reduction strategies to prevent future exceedances or a violation of PM_{10} standards.

Phase 2: Measured Violation

If a violation of PM_{10} standards occurs, the Department and Committee will determine the probable emissions and meteorological events contributing to the violation, and will implement additional emission reduction strategies as needed to return the AQMA to compliance. The Clean Air Act also requires that all nonattainment area strategies be reinstated until the violation can be resolved and the maintenance plan revised. This 2004 maintenance plan already continues all previous nonattainment strategies. Therefore, should a violation occur, the Department will work to identify the new strategies necessary to ensure compliance.

4.14.10.0 Rules, Regulations and Commitments

The following rules and commitments have been adopted to assure the enforceability of the control strategies.

State of Oregon Rules

The Oregon Revised Statutes (ORS) 468.020, 468.295 and 468.305 authorize the Oregon Environmental Quality Commission to adopt programs necessary to meet and maintain state and federal standards. The mechanisms for implementing these programs are the Oregon Administrative Rules (OAR).

Specific air pollution rules applicable to the Medford-Ashland AQMA (OAR 340-240-0010 to 0070) are included in Section 3.1 of the Oregon State Implementation Plan.

OAR	Subject
340-240-0010	Purposes and Application (General)
340-240-0030	Definitions
340-240-0100	Application (Medford-Ashland AQMA)
340-240-0110	Wood Waste Boilers
340-240-0120	Veneer Dryer Emission Limitations
340-240-0130	Air Conveying Systems
340-240-0140	Wood Particle Dryers at Particleboard Plants
340-240-0150	Hardboard Manufacturing
340-240-0160	Wigwam Burners
340-240-0170	Charcoal Producing Plants
340-240-0180	Control of Fugitive Emissions
340-240-0190	Operation and Maintenance Plans
340-240-0210	Continuous Monitoring
340-240-0220	Source Testing
340-240-0230	New Sources
340-240-0250	Open Burning

Additional rules applicable statewide include, but are not limited to:

OAR	Subject
340-222-0010 to 0090	Plant Site Emission Limits
340-224-0010 to 0100	New Source Review
340-225-0010 to 0090	Air Quality Analysis Requirements
340-218-0010 to 0250	Oregon Title V Operating Permits
340-262-0010 to 0330	Residential Woodheating

Jackson County Ordinances and Orders

Codified Ordinance of Jackson County: Chapter 1810 (Air Pollution)

City of Medford Ordinances and Resolutions

City of Medford Municipal Code: 5.550 (Outside Burning)
City of Medford Municipal Code: 7.222 (Operation of Solid Fuel Burning Device Prohibition).

City of Central Point Ordinances and Resolutions

Title 8: Health and Safety (Open Burning)
Title 8: Health and Safety: (Solid Fuel Burning Devices)

City of Ashland Ordinances

Ashland Municipal Code: 10.30.010 (Open Burning)
Ashland Municipal Code: (Requirement for Solid Fuel Burning Devices)
AMA 9.08.060.J: Trackout restrictions

City of Talent Ordinances

Ordinance #565 (Open Burning)
Ordinance #98-635-0 (Solid Fuel Burning Device)

City of Phoenix Ordinances

City of Phoenix Municipal Code: Chapter 8.16 (Open Burning)
City of Phoenix Municipal Code: Chapter 8.20 (Woodheating Regulations)
Ordinance No. 792: Control of Dust and Trackout

City of Jacksonville Ordinances

Ordinance 375 (Open burning)
City of Jacksonville Municipal Code. Chapter 8.10 (Woodheating)

City of Eagle Point Ordinances

City of Eagle Point Municipal Code, Article IV, 8.08.16 (Open Burning)

Interagency Commitments

Oregon Department of Forestry Smoke Management Plan,
OAR 629-43-043

4.14.11.0 Emergency Action Plan Provisions

OAR 340 Division 206 describes Oregon's Emergency Action Plan. The rule is intended to prevent the excessive accumulation of air contaminants during periods of air stagnation which, if unchecked, could result in concentrations of pollutants which could cause significant harm to public health. The rules establish criteria for identifying and declaring air pollution episodes below the significant harm level and were adopted pursuant to requirements of the Clean Air Act. The action levels found in the Plan were established by the Environmental Protection Agency and subsequently adopted by the Department.

The 24-hour average emergency action levels for PM_{10} (adopted by the Environmental Quality Commission April 29, 1988) are as follows: significant harm level of 600 mg/m^3, emergency level of 500 mg/m^3; warning level of 420 mg/m^3; and alert level of 350 mg/m^3.

These PM_{10} levels, coupled with meteorological forecasts for continuing air stagnation, trigger the Emergency Action Plan. PM_{10} concentrations have never been measured at the warning, emergency or significant harm level in the Medford-Ashland AQMA. Alert levels were measured during a severe air stagnation episode in December 1985 and during wildfire impacts in September 1987.

Authority for the Department to regulate air pollution sources during emergency episodes is provided under Oregon Revised Statutes (ORS) Chapter 468, including emissions from woodstoves. When there is an imminent and substantial endangerment to public health, ORS 468.115 authorizes the Department, at the direction of the Governor, to enforce orders requiring any person to cease and desist actions causing the pollution. State and local police are directed to cooperate in the enforcement of such orders.

4.14.12.0 Public Involvement

Development of the initial 1991 Medford-Ashland AQMA PM_{10} control strategy included several areas of public involvement including a citizen advisory committee, public participation at hearings on proposed industrial source rules, and attendance at hearings conducted by the Jackson County Board of Commissioners and cities within the AQMA. Public involvement in the 1998-2004 plan revisions included a stakeholders advisory committee, public workshops, and public hearings.

4.14.12.1 Citizen Advisory Committees

The Jackson County Board of Commissions appointed members to the Jackson County Woodburning Task Force in May 1987 to assist the County, cities within the AQMA, and the Department in the development of control programs for the Medford-Ashland AQMA. The Task Force considered alternative control strategies and provided recommendations to the Board in December 1987.

In 1996, the Medford-Ashland Air Quality Advisory Committee was convened by the Department to assist in the development of the revised PM_{10} attainment plan and the PM_{10} maintenance plan. The Committee's recommendations, together with public comment, have been considered by the Department in drafting this attainment and maintenance plan. A record of materials submitted to the Committee and summary reports of Committee meetings are on file with the Department.

The 1996-2003 Committee membership includes one representative from each of the interests:

Medford-Ashland Air Quality Advisory Committee (2003)

- Local Business
- Jackson Co. Environmental Health Dept.
- City of Ashland
- City of Talent
- City of Medford
- City of Central Point
- City of Jacksonville
- City of Eagle Point
- City of Phoenix
- Jackson County Board of Commissioners
- Private Citizen
- Rouge Valley Transportation District
- Oregon Dept. Of Forestry
- Oregon Dept. of Transportation
- Jackson Co. Home Builders Association
- Jackson Co. Chamber of Commerce
- Jackson Co. Fruit Growers League
- Rouge Valley Council of Governments
- League of Women Voters
- Sierra Club
- Coalition To Improve Air Quality
- Boise Cascade Corporation
- Southern Oregon Timber Industries Association
- Rogue Disposal and Recycling, Inc.

4.14.12.2 Public Notice

Public notice of proposed rule revisions is done through mailing lists maintained by the Department, through notifications published in local newspapers, and through Department press releases.

4.14.12.3 Public Hearings

An informational public workshop was held on December 9, 2003, in Medford to provide the public an opportunity to ask questions of staff and express their air quality concerns. Briefings on the draft attainment and maintenance plan were provided to each city council in the AQMA and the Jackson County Board of Commissioners. A public hearing was held on December 16, 2003 to receive public testimony on the proposed attainment and maintenance plan. Due to intense public interest, the public comment period was extended to January 29, 2004, and second public hearing was held on January 21, 2004.

4.14.12.4 Intergovernmental Review

Public hearing notices regarding adoption of this revision to the State Implementation Plan will be distributed for public and state agency review prior to adoption by the Environmental Quality Commission.

4.14.12.5 State Implementation Plan Requirements

The Medford-Ashland PM_{10} Attainment and Maintenance plan meets all state implementation plan requirements specified in Section 110 and Part D of the Clean Air Act. In summary, Section 110 requires states to submit a plan that becomes part of the state implementation plan, to provide for the implementation, maintenance, and enforcement of

air quality standards. Part D of the Clean Air Act outlines specific plan requirements for nonattainment areas.

4.14.12.6 Approved State Implementation Plan

The 2004 Medford-Ashland PM10 Attainment and Maintenance Plan contain emission reduction and emission growth management strategies needed to achieve and maintain compliance with PM10 standards. The PM10 Plan has been adopted as a revision to the State of Oregon Clean Air Act Implementation Plan (SIP).

4.14.12.7 1990 Clean Air Act Requirements (Attainment Date)

The Medford-Ashland AQMA has met the requirements for PM10 nonattainment area established in the 1990 Clean Air Act amendments. The area successfully met the applicable Clean Air Act attainment deadline of December 31, 2004.

4.14.12.8 Monitoring Network and Commitments

DEQ is responsible for the operation of the permanent ambient PM10 monitoring network in the Medford-Ashland AQMA. DEQ oversees the quality control and quality assurance program for the monitoring data.

DEQ will continue to comply with the air monitoring requirements if Title III, Section 319, of the Clean Air Act. The monitoring will also continue to be operated in compliance with EPA monitoring guidelines set forth in 40 CFR Part 58, "Ambient Air Quality Surveillance", and Appendices A through G of Part 58. In addition, DEQ will continue to comply with the "Ambient Air Quality Monitoring Program" specified in Volume 2, Section 6 of the Oregon SIP. Further, DEQ will continue to operate and maintain the network of State and Local Air Monitoring Stations and National Air Monitoring Stations in accordance with the terms of the State/EPA agreement.

4.14.12.9 Verification of Continued Compliance

DEQ will analyze PM_{10} air quality data on a seasonal and annual basis to verify continued compliance with PM_{10} standards, in accordance with 40 CFR Part 50 and EPA's Redesignation guidance. Monitored PM_{10} data will provide the information necessary to determine whether the AQMA continues to attain National Ambient Air Quality standards.

The Clean Air Act requires the state to submit a revision and update to the approved maintenance plan eight years after the first maintenance plan is approved by EPA. The updated maintenance plan must ensure continued compliance with PM_{10} standards for an additional ten years.

For the interim period between EPA approval of the plan and the required plan update, DEQ will rely on ambient monitoring data to track progress of the maintenance plan. The growth assumptions for the AQMA are modest. As long as monitoring data shows no significant

upward trend in PM_{10} concentrations, a mid-term emission inventory update will not be necessary. If PM_{10} concentrations significantly increase over current levels, the cause will be investigated and further action take as necessary, consistent with the provisions of the Contingency Plan (Section 4.14.9.0).

4.14.12.10 Other Commitments

DEQ will conduct additional saturation studies as needed to evaluate the PM_{10} monitoring network, in consultation with EPA.

DEQ will evaluate growth and other planning assumptions as necessary through the provisions of the contingency plan described in Section 4.14.9.0.

--###--

Appendices