

**Alaska Department of Environmental Conservation**



**Juneau's Mendenhall Valley  
Proposed PM<sub>10</sub> Limited Maintenance Plan**

**Adopted**

**February 20, 2009**

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## Table of Contents

III.D.3.1. Background .....	1
III.D.3.2. Maintenance Area Boundary .....	1
III.D.3.3. Limited Maintenance Plan (LMP) Requirements .....	1
III.D.3.4. Demonstration of PM <sub>10</sub> Attainment .....	1
III.D.3.5. Fully Approved SIP Under Section 110(k) of the Clean Air Act .....	1
III.D.3.6. Historical Attainment Plan Contingency Measures .....	1
III.D.3.7. Approval of Section 110 and Part D Requirements .....	1
III.D.3.8. Air Quality Maintenance Plan .....	1
III.D.3.9. Maintenance Demonstration .....	1
III.D.3.10 Contingency Provisions .....	1
III.D.3.11 Conformity for LMP Areas .....	1
III.D.3.12 Redesignation Request .....	1

## Appendix Documents

### Section III.D.3.5:

City & Borough of Juneau Ordinances # 83-63; #88-59; #91-52; #91-53; #93-01;  
#93-06; #2008-28;  
City & Borough of Juneau Resolution #2448  
Fiscal Year 1994 CP-1s  
City & Borough of Juneau Resolution #1612  
1992/1993 Memorandum of Understanding between ADEC, ADOT/PF, and CBJ

### Section III.D.3.8:

Mendenhall Valley PM<sub>10</sub> Emission Inventory

### Section III.D.3.9:

EPA Region 10 Analysis of PM<sub>10</sub> Design Value

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## **SECTION III.D.3 JUNEAU PARTICULATE (PM<sub>10</sub>) CONTROL PROGRAM**

### **III.D.3.1. Background**

EPA designated the Mendenhall Valley area of Alaska as a moderate nonattainment for the National Ambient Air Quality Standards (NAAQS) for particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM<sub>10</sub>), upon enactment of the federal Clean Air Act Amendments of 1990 (56 FR 56694, November 6, 1991). The nonattainment classification was based on violations of the 24-hour standard that occurred throughout the 1980s. The EPA fully approved Alaska's moderate PM<sub>10</sub> nonattainment area plan as a State Implementation Plan (SIP) revision for the Mendenhall Valley PM<sub>10</sub> nonattainment area in 1994 (Federal Register: March 24, 1994). There has been no measured violation of EPA's PM<sub>10</sub> standard since 1994.

The Mendenhall Valley, surrounded by mountains on the east, west and north, is the largest residential area within the City and Borough of Juneau, Alaska. The mountains and short winter days contribute to wintertime inversions which historically have elevated particulate matter concentrations causing them to exceed the PM<sub>10</sub> NAAQS.

The Clean Air Act states an area can be redesignated to attainment if specific criteria are met. Section 107(d)(3)(E) of the Clean Air Act details the criteria necessary, including an approved maintenance plan. In August 2001, the U.S. Environmental Protection Agency (EPA) issued the Limited Maintenance Plan (LMP) option for more easily redesignating qualifying low risk moderate PM<sub>10</sub> nonattainment areas. This option allows states to submit a more streamlined maintenance plan than normally required when future PM<sub>10</sub> violations are unlikely.

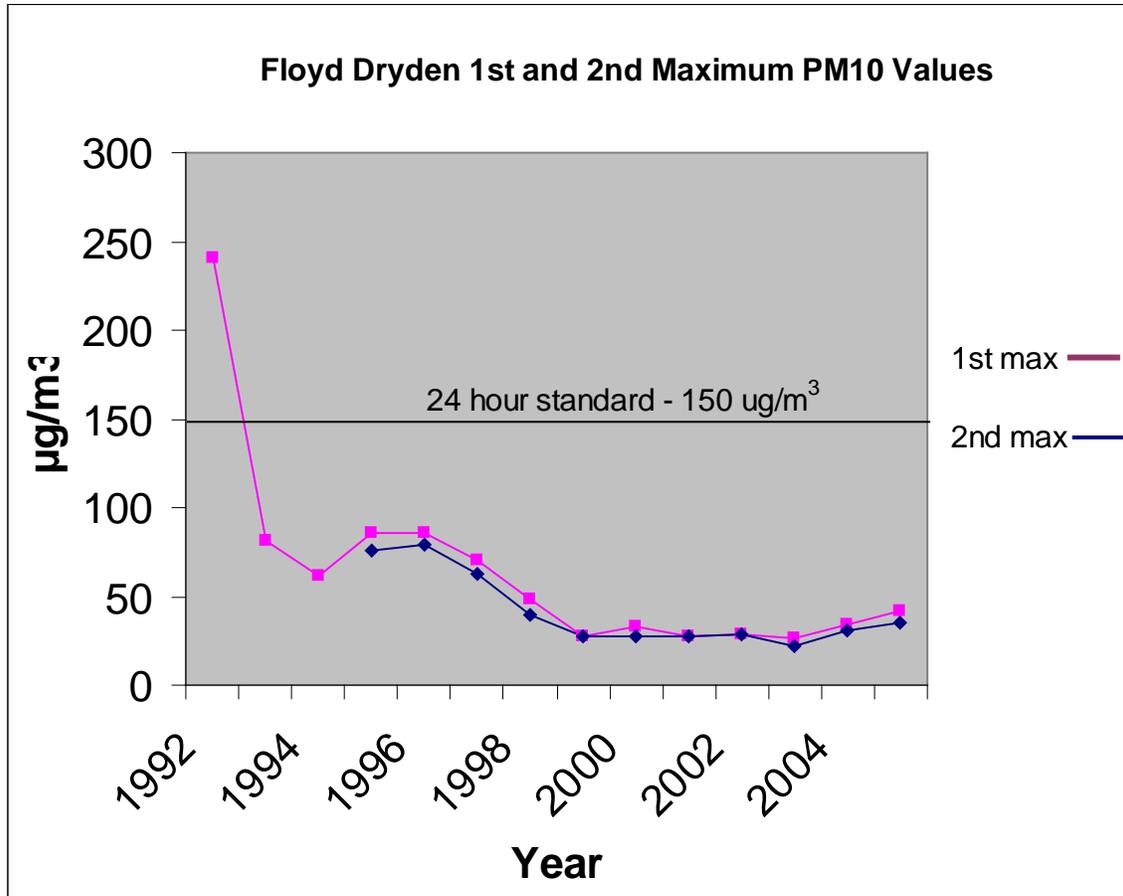
The Alaska Department of Environmental Conservation has demonstrated, through ambient monitoring, that the Mendenhall Valley is highly unlikely to violate the PM<sub>10</sub> NAAQS within the next 10 years. EPA approved the Mendenhall Valley nonattainment plan in 1994. In the 1980s and early 1990s, Mendenhall Valley PM emissions were attributed to smoke from home heating with wood and fugitive dust from travel on roads. The 1994 PM<sub>10</sub> nonattainment plan included a wood smoke control program incorporating public education, real-time monitoring, open burning prohibitions in winter, new stove certification and enforcement of a borough wood smoke ordinance. For fugitive dust, the SIP focused on paving unpaved roads.

Monitoring data shows that the Mendenhall Valley nonattainment area last violated the 24-hour PM<sub>10</sub> standard in 1993 (at only the Trio Street site).\* The PM<sub>10</sub> levels measured since 2000 are roughly a third of the 24-hour standard and well under the 98 ug/m<sup>3</sup> threshold established by EPA to qualify for the LMP option. Because of these low PM<sub>10</sub> concentrations and the pollution controls and plans currently in place, the Mendenhall Valley is at minimal risk of violating the PM<sub>10</sub> standard and therefore qualifies for EPA's LMP option. Figure III.D.3.1-1 illustrates the trends in PM<sub>10</sub> concentrations since the early 1990s.

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\* <http://www.epa.gov/aqspubl1/select.html>

**Figure III.D.3. 1-1**  
**First and second highest daily PM<sub>10</sub> concentrations**  
**measured at Floyd Dryden Middle School**  
**Juneau, Alaska 1992-2005.**

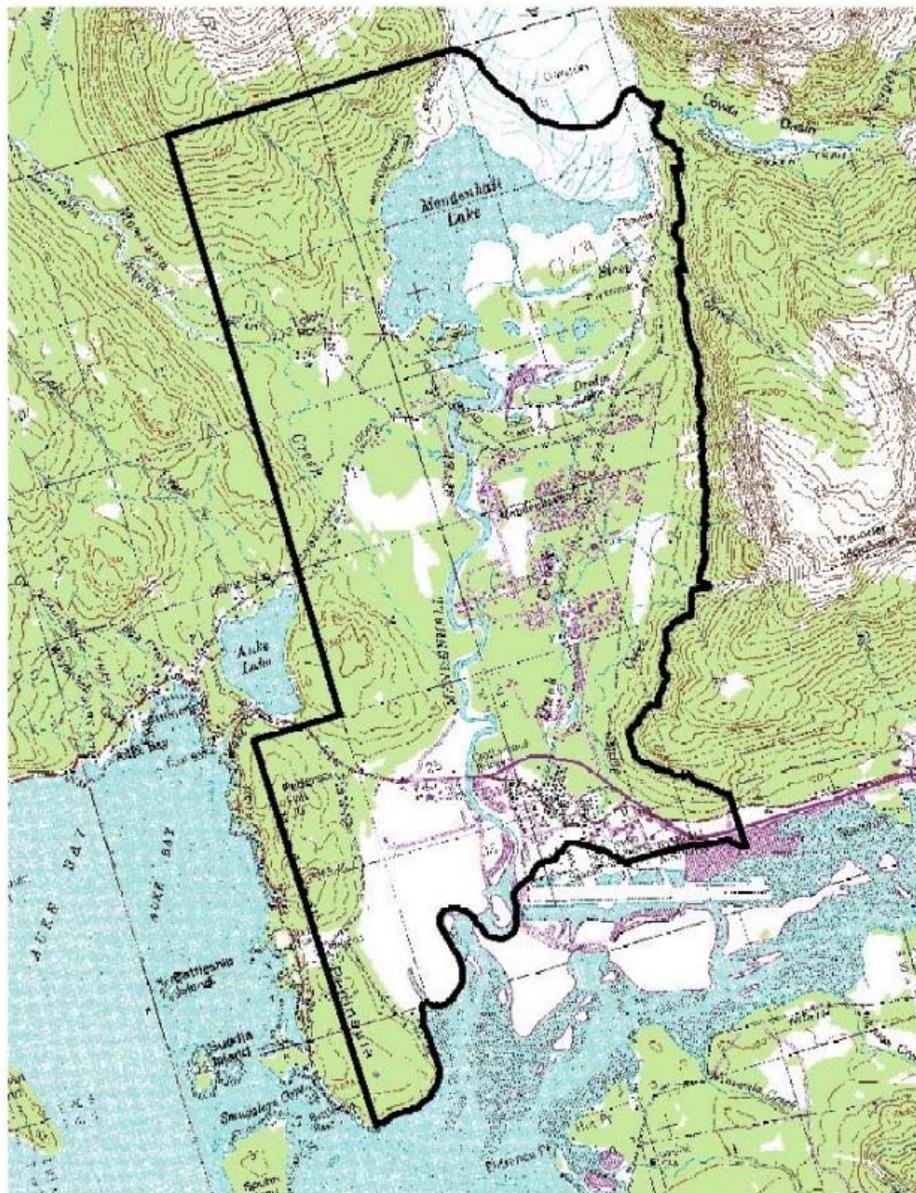


This LMP demonstrates that the Mendenhall Valley meets Clean Air Act requirements for attainment of the NAAQS for PM<sub>10</sub>, and that the PM<sub>10</sub> reductions seen over the past 15 years in the Mendenhall Valley are permanent and enforceable. Since 1995, the Mendenhall Valley has met federal PM<sub>10</sub> standards. The Alaska Department of Environmental Conservation (ADEC), through this LMP, requests EPA re-designate the Mendenhall Valley area as attainment.

### III.D.3.2. Maintenance Area Boundary

The Mendenhall Valley maintenance area extends from the northern boundary of the Juneau Airport north through the Valley to the southern edge of the Mendenhall Glacier near Nugget Creek. The easterly and westerly boundaries are bound by steep ridge crests rising more than 1000 feet from the Valley floor. These boundaries are identical to the nonattainment boundary identified in the previous plan. The maintenance area boundaries become effective with the approval of this LMP.

Figure III.D.3.2-1  
Maintenance Area Boundary  
Juneau PM-10 Non-Attainment Area



Alaska Department of Environmental Conservation  
Air & Water Quality Division  
Air Nonpoint & Mobile Sources  
412 Willoughby Avenue, Suite 105  
Juneau, Alaska 99801-3798

0.5 0 0.5 1 Miles



The sources of particulate matter within the valley include residential wood smoke, ball fields and playgrounds, automobile exhaust, and fugitive dust. To the north a gravel pit and the Mendenhall Glacier each may contribute to dust during windy conditions. On occasion, wildfire smoke from Western Canada has affected air quality in the Mendenhall Valley.

Juneau International Airport (JIA), with 275,000 enplanements per year, is just outside the maintenance area at the south end of the valley, and may affect monitoring sites when winds are from the south. Flight operations at JIA totaled 105,487 in 2005 according to Federal Aviation Administration statistics.

### **III.D.3.3. Limited Maintenance Plan (LMP) Requirements**

This PM<sub>10</sub> LMP for the Mendenhall Valley nonattainment area demonstrates how the LMP requirements have been met. These requirements are set out in the August 9, 2001 EPA issued guidance on streamlined maintenance plan provisions for certain PM<sub>10</sub> nonattainment areas seeking redesignation to attainment [entitled “Limited Maintenance Plan Option for Moderate PM<sub>10</sub> Nonattainment Areas” (Wegman 2001)]. The guidance provides a statistical demonstration that areas meeting certain criteria will have a high degree of probability of maintaining the standard 10 years into the future, thus demonstrating maintenance of the standard as required for redesignation. To qualify for the LMP option:

- The area should have attained the PM<sub>10</sub> NAAQS;
- The average 24-hour PM<sub>10</sub> design value for the area, based on the most recent 5 years of air quality data at all monitors in the area, should be at or below 98 ug/m<sup>3</sup> with no violations at any monitor in the nonattainment area; and
- The area should expect only limited growth in on-road motor vehicle PM<sub>10</sub> emissions (including fugitive dust) and should have passed a motor vehicle regional emissions analysis test;

In addition, the LMP must include:

- an attainment year emission inventory;
- assurance of continued operation of an EPA-approved air quality monitoring network; and
- contingency provisions.

The final approval of an LMP for a nonattainment area requires:

- a determination by EPA that the NAAQS has been attained.
- an EPA fully-approved PM<sub>10</sub> state implementation plan as set out in Section 110(k) of the Clean Air Act.
- a determination by EPA that air quality improvement is due to permanent and enforceable reductions in emissions.
- a demonstration by the State that it has met all applicable requirements under section 110 and part D of the Clean Air Act.
- Approval by EPA of this LMP, including a contingency plan, for the area designated under section 175A of the Clean Air Act.

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### **III.D.3.4. Demonstration of PM<sub>10</sub> Attainment**

On July 1, 1987, EPA revised Title 40, Part 50, of the Code of Federal Regulations to change the National Ambient Air Quality Standard (NAAQS) from total suspended particulate (TSP) to particulate matter less than 10 micrometers in diameter (PM<sub>10</sub>). The primary and secondary NAAQS for PM<sub>10</sub> standards follow:

#### **24-Hour Standard**

The NAAQS for PM<sub>10</sub> is 150 µg/m<sup>3</sup> for 24-hour average concentration. The standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m<sup>3</sup> is less than or equal to one, as determined in accordance with 40 CFR 50, Appendix K.

#### **Annual Standard**

In 1987, the annual NAAQS for PM<sub>10</sub> was set at 50 µg/m<sup>3</sup> calculated as an annual arithmetic mean. Due to lack of evidence linking health problems to long-term exposure to coarse particle pollution, the EPA revoked the annual standard on September 21, 2006.

#### **Monitored Attainment**

EPA determines whether an area's air quality meets the PM<sub>10</sub> NAAQS based upon monitored data gathered in accordance with federal standards in 40 CFR Part 58. Since 2000, measured PM<sub>10</sub> levels are roughly a third of the 24 hour standard and well under the 98 µg/m<sup>3</sup> threshold established by EPA to qualify for the LMP.

ADEC operated multiple PM<sub>10</sub> monitoring sites in the Mendenhall Valley in the 1980s and 1990s. Three sites in the Mendenhall Valley were designed as part of the State and Local Air Monitoring Stations. Trio Street operations occurred from 1989 to 1997. The Glacier Auto site operated from 1988 to 1993. From 1986 onward, monitoring has continued for PM<sub>10</sub> at one site, Floyd Dryden Middle School, where operations began initially for total suspended particulate in 1980.

The Floyd Dryden site is located on the roof of Floyd Dryden Middle School in the Mendenhall Valley of Juneau. The monitors are on the far side of the school from the parking lot. Three General Metal Works high-volume PM<sub>10</sub> samplers operate at the site. These samplers are also operated on a 1 in 3 schedule with collocated sampling on every sixth day. The PM<sub>10</sub> samplers were installed on January 1, 1986. The elevation for the monitors is 15 meters.

The school location is suburban-residential and approximately 65 meters east of Mendenhall Loop Road, the main arterial intersecting the eastside of the valley. According to 2005 traffic counts, the Loop has an average daily traffic of 14,000 near the school, increasing to nearly 22,000 near its terminus with Egan Drive to the south. Floyd Dryden is a neighborhood-scale, population-oriented site and is not within a metropolitan statistical area.

**Table III.D.3.4-1  
1st and 2nd Highest 24-Hour PM<sub>10</sub> Concentrations, 1992 – 2005**

<b>Floyd Dryden Middle School</b>		
<b>Year</b>	<b>1st Max</b>	<b>2nd Max</b>
1992	241	207
1993*	81	79
1994	61	59
1995	86	76
1996	86	79
1997	70	63
1998	48	40
1999	28	27
2000	33	27
2001	28	28
2002	29	29
2003	26	22
2004	34	31
2005	42	35

\* Although concentrations at Floyd Dryden were well below the standard in 1993, there were three exceedances that year at the Trio site.

### **III.D.3.5. Fully Approved SIP under Section 110(k) of the Clean Air Act**

#### **Initial Designation**

The Clean Air Act requires each state to develop air pollution regulations and control strategies to meet the PM<sub>10</sub> standard and other federal health-based standards. The State Implementation Plan (SIP) contains these regulations and strategies. The Clean Air Act requires states to submit SIPs to EPA for review and approval.

EPA designated the Mendenhall Valley nonattainment for PM<sub>10</sub> and classified it as “moderate” upon enactment of the 1990 Clean Air Act Amendments, Section 107(d)(4)(B). EPA required Alaska to prepare a plan to attain the standard as a revision to the Alaska State Air Quality Plan (SIP). Nonattainment plans must include a source inventory, emission estimates, projected emissions to the attainment year and control strategies. The must also demonstrate the adequacy of the control program and include contingency measures to implemented if the area fails to attain by the attainment date.

EPA approved ADEC’s attainment plan for PM<sub>10</sub> in March 24, 1994 for an effective date of April 25, 1994. The SIP implemented a wood smoke control program and a fugitive dust abatement program. Elements of the wood smoke control program included a public education program, implementation of a real-time monitoring system linked to episodic controls of wood burning, prohibition of open burning during winter months, new stove certification requirements, and enforcement of the CBJ wood-smoke ordinance. The fugitive dust abatement program focused on paving unpaved roads in the Mendenhall Valley.

#### **Historical Source Inventory**

Air quality characterization in the Mendenhall Valley began in the early 1980s with phone surveys on wood combustion. In 1988, EPA conducted an emission inventory of all sources of spring and fall emissions, when monitoring had shown the highest levels of PM<sub>10</sub> occurring. EPA worked with the State to determine appropriate emissions factors. Studies indicated fugitive dust constituted over 50% of PM<sub>10</sub> in the Mendenhall Valley. Fugitive dust sources include dust particles carried by wind and abrasion of surfaces such as traffic on dirt roads. In addition to fugitive dust, historical PM<sub>10</sub> sources in the Mendenhall Valley include:

- Residential and commercial oil-fired furnaces;
- Residential wood-fired heating devices;
- Open burning of construction/residential waste;
- Tailpipe, tire, and brake wear emissions from surfaces;
- Jet and propeller-driven aircraft exhaust emissions;
- Wind-generated fugitive dusts from exposed soils/roadways;
- Vehicle-generated fugitive dusts from paved/unpaved roadways;
- Marine aerosols; and
- Road sanding for winter driving.

The 1988 emission inventory developed predictive emission factor equations and emission rates for paved and unpaved roads. At that time, there were a number of unpaved roads in the Mendenhall Valley. On dry days, vehicle movement disturbed high levels of dust from unpaved roads. EPA estimated peak hour vehicle counts on a limited number of roads. Emission estimates were based on vehicle counts from selected roads which were extrapolated to non-selected roads by a function of housing density. For wood smoke, emission factors from EPA Region 10 were combined with survey data.

Table III.D.3.5-1 shows estimates by season and source. Maximum 24-hour emission estimates are highest in spring and fall due to road sanding and windblown dust. These conditions are reduced in winter due mainly to wet and snow-covered conditions.

**Table III.D.3.5-1  
Worst Case Valley 24-Hour Emission Estimates by Season for 1988 (tons/day)**

Source Category	Spring		Summer		Fall		Winter	
	PM <sub>10</sub>	TSP						
<b>Paved Streets –</b>								
Fugitive Dust	21.45	51.36	0.49	1.24	21.45	51.36	0.49	1.24
<b>Unpaved Streets –</b>								
Fugitive Dust	0.08	0.23	9.13	20.28	0.08	0.23	0.08	0.23
Windblown Dust	11.51	23.00	5.75	11.50	11.51	23.00	5.75	11.50
Woodstoves and Fireplaces	N	N	N	N	N	N	1.32	1.32
Others	0.33	0.68	0.21	0.24	0.21	0.24	0.21	0.24
<b>TOTAL</b>	<b>33.37</b>	<b>75.27</b>	<b>15.58</b>	<b>33.26</b>	<b>33.25</b>	<b>74.83</b>	<b>7.85</b>	<b>14.53</b>

**Projected Emission to Attainment Year**

Attainment was projected to occur by December 31, 1994. This did not occur and EPA extended the attainment deadline by one year to December 31, 1995. Attainment did occur by this date. Table III.D.3.5-2 summarizes the original projection of attainment by the extended attainment date. Monitoring data shows attainment by the end of 1995.

**Table III.D.3.5-2  
Expected Reductions in PM<sub>10</sub> Emissions 1993-1995  
Due to Historical Emission Control Measures**

Source	Year	Reductions	Reductions Tons/Year	Projected Growth Tons per Source
Paved Roads <sup>1</sup>	1993	15% of 801 tons/year	120	11
	1994	15% of 681	102	
	1995	0% of 579	0	
Unpaved Roads	1993	20% x 698	140	34
	1994	69% x 558	385	
	1995	90% x 173	156	
Woodstoves <sup>2</sup>	1993	20% x 149	30	3
	1994	20% x 119	24	
	1995	0% x 95	0	
Grand Total			961 tons	48 tons

<sup>1</sup> Track out control and winter sand control

<sup>2</sup> Estimated annual replacement of stoves – USFS/CBJ and ordinance 91-52

### **Historical and On-Going Control Measures**

The City & Borough of Juneau ordinances and information related to wood smoke and road dust control as included in the attainment plan are found in the Appendix to Section III.D.3.5.

#### **Wood Smoke**

Programs were in place to control wood smoke through the 1980s. The program consisted of a 50% opacity standard at the point of emission, air emergencies announced when particulate levels reached 260 ug/m<sup>3</sup> (24 hour average), and banned open burning in the affected area between November 1 and March 31. The City and Borough lowered the threshold for an air emergency to 150 ug/m<sup>3</sup> in 1984, 100 ug/m<sup>3</sup> in 1986, 92 ug/m<sup>3</sup> in 1988, and 75 ug/m<sup>3</sup> in 1991. During air emergencies, the use of wood stoves or fireplaces was prohibited unless the stove burned pellets. A secondary air emergency level existed at higher concentrations where no wood stove or fireplace use was allowed. These programs were codified into the attainment plan.

CBJ police enforced wood smoke bans. Initially fines were \$100 for a first offense and \$300 for a second. These were later dropped to \$50 for a first offense and \$75 for a second. Warnings were commonly issued at the beginning of the program, but later fines were primarily issued.

CBJ required wood stove users to not burn any materials other than paper, cardboard, and untreated wood. Building codes were passed with minimum insulation requirements and restrictions on window coverage. Regulations were adopted that did not allow wood stoves to be the sole source of heat.

## **Fugitive Dust**

Fugitive dust control primarily relies on reasonably available control measures (RACM). Examples of RACM include paving unpaved streets, sweeping and sanding mitigation programs, dust suppressants, use of coverings and enclosures, planting, and reducing speeds.

For roads already paved, the CBJ and Alaska Department of Transportation optimized sanding and de-icing materials to maximize road safety and keep entrainment of fine dust into the air to a minimum. CBJ implemented street sweeping in spring to remove excess sand. CBJ used Congestion Mitigation Air Quality funds to add sweepers to the fleet in the early 1990s.

Through the normal progression of Juneau's transportation infrastructure, many improvements occurred through paving of dirt roads. The SIP was amended in 1991 to account for a newer, cheaper form of "hot-mix" asphalt surfacing. A paving program was quickly adopted as the primary solution to dust problems in the non-attainment area. In the span between 1991 and 1994, 89 percent of targeted dirt roads were paved with most being paved in 1993 and 1994. Targeted roads unpaved by 1994 still needed improvements to drainage and easements. Most of these roads were eventually paved.

For the remaining unpaved roads, CBJ relied on natural precipitation to keep dust down. Tested dust suppressants tended to increase rutting of roads during rare dry stretches causing unsafe conditions. Eventually, CBJ applied alternative road surfaces with smaller capacity for developing fine particles. For high traffic roads, a D-1 gravel was used, and for low traffic roads, a coarser, rockier material was used.

## **Adequate Demonstration of Control Program**

One method of measuring effectiveness of control programs is to determine the number of days where PM concentrations were high enough to warrant calling an air alert or emergency. Table III.D.5-3 looks at the number of wood use curtailment days.

**Table III.D.3.5-3  
Wood Use Curtailment Days**

Winter Season	No. Days
1982/83	2.1
1983/84	7.8
1984/85	10.4
1985/86	28.9
1986/87	7.4
1987/88	14.1
1988/89	12.6
1989/90	3.7
1990/91	18.3
1991/92	6.0
1992/93	9.2

There appears to be a small trend toward fewer days requiring curtailed wood use over time. However, the number of days varies dramatically from year to year depending on

weather patterns. This includes the fact that the threshold for air alerts were decreased in 1984, 1986, 1988, and 1991. In recent years, no air alerts have been issued.

Further measures of success include a switching of heating purchases to pellet stoves over wood burning stoves, such that by 1993, 70% of new wood burning stove purchases were pellet stoves.

The 1993 plan projected ambient  $PM_{10}$  levels after the implementation of the fugitive dust control measures would range from  $77 \mu\text{g}/\text{m}^3$  to  $101 \mu\text{g}/\text{m}^3$ . The plan needed to reduce  $PM_{10}$  by approximately 460 tons per year to meet the standard in the Mendenhall Valley. Controlling unpaved roads contributed most to the emission reductions. The 1993 plan also estimated growth at 5% per year through 1997. Given the projections, ambient  $PM_{10}$  levels were projected to remain significantly below the standard into the future. Table III.D.3.5-2 summarizes expected reductions in emissions against expected growth.

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### **III.D.3.6. Historical Attainment Plan Contingency Measures**

#### **Fugitive Dust**

Less than two miles of unpaved road remain in the Mendenhall Valley after the initial attainment plan paving effort. If attainment had not been reached by December 31, 1995, these stretches of unpaved road could have been paved. Further, the CBJ had a number of other mechanisms to reduce PM<sub>10</sub> if needed. These included using coarser sand in winter, sweeping roads during dry spells, limiting use to chemical deicers, increasing public awareness, covering truck loads, focusing on construction sites, addressing transitions from paved to unpaved roads, using plants to stabilize road beds, and controlling outdoor storage piles. In addition the following control measures were listed as other options to be investigated:

- Controlling spills from trucks hauling particulate-producing materials;
- Requiring installation of liners on truck beds;
- Requiring watering of loads;
- Requiring cargo that cannot be controlled by other measures to be covered;
- Requiring trucks to maintain a freeboard;
- Establishing controls on construction carryout and entrainment;
- Requiring construction activities to limit and remove the accumulation of dust generating materials;
- Requiring paving of construction site access roads;
- Requiring the developer of a construction site to clean soil from access road and public roadway;
- Requiring control of vehicle entrainment from unpaved areas adjacent to paved roadways;
- Requiring stabilization of unpaved areas adjacent to paved roads, such as shoulders;
- Controlling storm water from washing eroded materials onto the street;
- Developing adequate storm water control systems;
- Requiring vegetation to stabilize road sides;
- Developing programs for the rapid clean up of street debris after events;
- Controlling wind erosion from outdoor storage of loose material that could be direct emitters of PM<sub>10</sub>;
- Requiring covers over outdoor material that may produce dust in wind storms; and
- Requiring wind breaks in the vicinity of outdoor storage piles.

#### **Woodstoves**

The CBJ attainment plan listed a number of programs to implement if necessary to further control PM<sub>10</sub> from woodstoves. These included:

- Establishing an enhanced public information campaign including education in stove selection, sizing, installation, operation, and maintenance practices to minimize emissions;
- Establishing an enhanced public information campaign including education on health risks from wood smoke, new technology stoves, and alternatives to wood heating;

- Encouraging improved performance of wood burning devices such as providing voluntary dryness certification programs for dealers and/or making inexpensive wood moisture checks available to wood burners;
- Providing inducements that would lead to reductions in the stove and fireplace population and/or use by:
  - Slowing the growth of wood burning devices in new housing units by taxes, installation permit fees, or other incentives
  - Encouraging a reduction in the number of wood stoves (i.e. Removing or disabling the devices) through tax credits or other incentives;
  - Discouraging the resale of used stoves through taxes, fees, or other incentives;
  - Discouraging the availability of free (or very inexpensive) firewood by increasing cutting fees or limiting the cutting season.

### **III.D.3.7. Approval of Section 110 and Part D Requirements**

Section 107(d)(3)(E)(v) of the Act requires that a state containing a nonattainment area must meet all applicable requirements under section 110 and Part D of the Act. This means the state must meet all requirements that applied to the area prior to, and at the time of, the submission of a complete redesignation request. The following is a summary of how Juneau's Mendenhall Valley nonattainment area meets these requirements.

#### **Clean Air Act Section 110 Requirements**

Section 110(a)(2) of the Act contains general requirements for nonattainment plans. These requirements include, but are not limited to, submittal of a SIP that has been adopted by the State after reasonable notice and public hearing; provisions for establishment and operation of appropriate apparatus, methods, systems and procedures necessary to monitor ambient air quality; implementation of a permit program; provisions for Part C--Prevention of Significant Deterioration (PSD) and Part D--New Source Review (NSR) permit programs; criteria for stationary source emission control measures, monitoring and reporting, provisions for modeling; and provisions for public and local agency participation.\*

For purposes of redesignation, Alaska's Mendenhall Valley PM<sub>10</sub> SIP (fully-approved by EPA in Federal Register: March 24, 1994) shows that the state has satisfied all requirements under section 110(a)(2) of the Act.

#### **Part D Requirements**

Part D contains general requirements applicable to all areas designated nonattainment. The general requirements are followed by a series of subparts specific to each pollutant. All PM<sub>10</sub> nonattainment areas must meet the general provisions of Subpart 1 and the specific PM<sub>10</sub> provisions in Subpart 4, "Additional Provisions for Particulate Matter Nonattainment Areas." The following paragraphs discuss these requirements as they apply to the Mendenhall Valley area.

##### **Subpart 1, Section 172(c)**

Subpart 1, section 172(c) contains general requirements for nonattainment area plans. A thorough discussion of these requirements may be found in the General Preamble. See 57 FR 13538 (April 16, 1992). The requirements for reasonable further progress, identification of certain emissions increases and other measures needed for attainment were satisfied with the approved PM<sub>10</sub> nonattainment plan for the Mendenhall Valley area.

##### **Section 172(c)(3)--Emissions Inventory**

Section 172(c)(3) of the Act requires a comprehensive, accurate, current inventory of actual emissions from all sources in the PM<sub>10</sub> nonattainment area. Alaska has included an emissions inventory

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\* See the General Preamble for further explanation of these requirements. 57 FR 13498 (April 16, 1992).

for the calendar year 2004 with this submittal of the LMP for the Mendenhall Valley area. The requirement for a current, accurate and comprehensive emission inventory is satisfied by the inventory contained in the LMP.

#### **Section 172(c)(5)--New Source Review (NSR)**

The Clean Air Act Amendments of 1990 contained revisions to the new source review (NSR) program requirements for the construction and operation of new and modified major stationary sources located in nonattainment areas. The Act requires states to amend their SIPS to reflect these revisions, but does not require submittal of this element along with the other SIP elements. The Act established June 30, 1992 as the submittal date for the revised NSR programs (Section 189 of the Act). In the Mendenhall Valley, the requirements of the Part D NSR program will be replaced by the Prevention of Significant Deterioration (PSD) program and the maintenance area NSR program upon effective date of redesignation. The Part D NSR rules for PM<sub>10</sub> nonattainment areas in Alaska were approved by EPA. The federal PSD regulations found at 40 CFR 52.21 are the PSD rules in effect for Alaska under maintenance.

#### **Section 172(c)(7) Compliance With CAA Section 110(a)(2): Air Quality Monitoring Requirements**

Once an area is redesignated, the state must continue to operate an appropriate air monitoring network in accord with 40 CFR part 58 to verify attainment status of the area. The Mendenhall Valley's current monitoring network is described in Section III.D.4 of this LMP. Monitors are operating in accord with 40 CFR part 58. The State commits to continued operation of the monitoring network.

#### **Section 172 (c)(9) Contingency Measures**

The Clean Air Act requires that contingency measures take effect if the area fails to meet reasonable further progress requirements or fails to attain the NAAQS by the applicable attainment date. Since the Mendenhall Valley area attained the NAAQS for PM<sub>10</sub> by the attainment date of December 31, 1995, contingency measures are no longer required under Section 172(c)(9) of the Act. However, contingency provisions are required for maintenance plans under Section 175(a)(d). The state describes its contingency measures in Section III.D.3.10 of this LMP.

#### **Part D Subpart 4**

Part D Subpart 4, Section 189(a), (c) and (e) requirements apply to any moderate nonattainment area before the area can be redesignated to attainment. The requirements which were applicable prior to the submission of the request to redesignate the area must be fully approved into the SIP before redesignating the area to attainment.

These requirements include:

- Provisions to assure that RACM was implemented by December 10, 1993;

- Either a demonstration that the plan provided for attainment as expeditiously as practicable but not later than December 31, 1994, or a demonstration that attainment by that date was impracticable;
- Quantitative milestones which were achieved every 3 years and which demonstrate reasonable further progress (RFP) toward attainment by December 31, 1994; and
- Provisions to assure that the control requirements applicable to major stationary sources of PM<sub>10</sub> also apply to major stationary sources of PM<sub>10</sub> precursors except where the Administrator determined that such sources do not contribute significantly to PM<sub>10</sub> levels which exceed the NAAQS in the area.

These provisions were fully met in the SIP upon EPA approval of the PM<sub>10</sub> nonattainment area plan for the Mendenhall Valley area. Juneau's Mendenhall Valley was classified as moderate nonattainment for PM<sub>10</sub> upon enactment of the Clean Air Act Amendments in 1990. The requirements applicable to the Mendenhall Valley nonattainment area for inclusion in the Alaska SIP included an attainment demonstration, a 1988 base year emission inventory, a wood smoke control program, a fugitive dust control program of paving unpaved roads, contingency measures, conformity measures and a permit program for new or modified stationary sources. EPA approved all these elements into the Alaska SIP in March 1994 (Federal Register: March 24, 1994). Thus the area has a fully approved nonattainment area SIP under section 110(k) of the Act.

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### **III.D.3.8. Air Quality Maintenance Plan**

The approved attainment SIP included implementation of RACM for PM<sub>10</sub> sources and demonstrated attainment by December 31, 1994. ADEC applied for and was granted in September 1995 a one year extension of the attainment deadline. Monitoring data shows the controls are working. Between 1982 and 1987, maximum 24 hour total suspended particulate concentrations reduced from 600 µg/m<sup>3</sup> to 100 µg/m<sup>3</sup>. Between 1992 and 1995, maximum 24 hour PM<sub>10</sub> concentrations reduced from 207 µg/m<sup>3</sup> to 86 µg/m<sup>3</sup>.

#### **Permanent and Enforceable Emission Reductions**

Emission reductions are permanent and enforceable as demonstrated through this LMP. Implemented control measures including enforceable wood smoke ordinances, permanent wood stove technology advances, and paving of unpaved roads are responsible for air quality improvements in the Mendenhall Valley and all existing controls will remain in place in this LMP. Neither local economic downturns nor unusual weather patterns have contributed to air quality improvements. In fact, Juneau's population has grown since EPA's attainment plan approval, and Juneau has experienced a number of dry summers. In spite of these outside factors, PM<sub>10</sub> measurements continue to decline. ADEC believes the combination of approved SIP provisions and federal measures continue to result in permanent and enforceable reductions in ambient PM<sub>10</sub> levels that allow the Mendenhall Valley to continue to attain the PM<sub>10</sub> standard.

EPA's LMP Option for Moderate PM<sub>10</sub> Nonattainment Areas allows states to submit a more streamlined maintenance plan than ordinarily permitted. The LMP option is designed to redesignate areas at little risk of violating the PM<sub>10</sub> standard. A maintenance plan is developed to ensure that attainment of the health standard will continue into the future.

A maintenance plan must contain the following requirements: source inventory, current and projected emission estimates, control strategies, and demonstrated program adequacy. The LMP presumes current PM<sub>10</sub> levels and potential for future growth in mobile source emissions provide minimal risk of violating the NAAQS. For this reason, under a LMP regional transportation conformity is assumed and the motor vehicle emissions budget need not be capped. This means that under an LMP a regional emissions analysis is not required for conformity determinations on plans or TIPs. The conformity determination should note this.

#### **Attainment Year Emission Inventory**

In January 2006, the department completed an annual emission inventory for years 2004 and 2018 for PM<sub>10</sub> emissions in the Mendenhall Valley nonattainment area. This inventory is located in the Appendix to Section III.D.3.8. Table III.D.3.8-1 presents a summary of 2004 and 2018 PM<sub>10</sub> emissions for Mendenhall Valley in Juneau. Overall, the PM<sub>10</sub> inventory is estimated to have declined by almost 30% between 1993 and 2004.

<b>Table III.D.3.8-1</b> <b>Summary of Mendenhall Valley PM<sub>10</sub> Emissions</b> <b>By Season and Source Category (tons/day)</b>		
Source Category	Calendar Year 2004	Calendar Year 2018
<b>Winter PM<sub>10</sub> Emissions</b>		
On-Road	0.022	0.011
Non-Road	0.027	0.012
Area		
Residential – Wood	0.091	0.099
Residential – Pellet	0.006	0.007
Residential – Oil	0.002	0.002
Residential Burn Barrels	0.000	0.000
Paved Road Fugitive Dust	1.478	1.612
Unpaved Road Fugitive Dust	0.161	0.176
Other Area Sources	0.182	0.181
Area Subtotal	1.920	2.077
Point	0.000	0.000
Total All Sources	1.969	2.100
<b>Summer PM<sub>10</sub> Emissions</b>		
On-Road	0.021	0.011
Non-Road	0.049	0.021
Area		
Residential – Wood	0.031	0.034
Residential – Pellet	0.002	0.002
Residential – Oil	0.001	0.001
Residential Burn Barrels	0.057	0.062
Paved Road Fugitive Dust	4.135	4.510
Unpaved Road Fugitive Dust	0.190	0.207
Other Area Sources	0.182	0.183
Area Subtotal	4.598	4.999
Point	0.155	0.155
Total All Sources	4.823	5.186
Annual Average	3.400	3.647

The general approach followed the source-specific data collection and modeling procedures detailed in the EPA emission inventory guidance document “PM-10 Emission Inventory Requirements,” Final Report, September 1994. Key emission sources identified in the previous inventory were smoke from residential wood combustion and fugitive dust from both paved and unpaved roads. Given the significance of these sources and past efforts to control their emissions, the inventory focused on collecting new data to characterize activity levels for these sources. A home heating survey conducted in 2005 provided insight into the impact of technology changes and activity levels on residential heating emissions. No similar survey is available to support an update of fugitive dust from paved and unpaved roads.

In order to prepare an accurate update for paved and unpaved roads, the DEC contractor contacted the Alaska Department of Transportation and Public Facilities and local CBJ agencies to obtain data on the miles of paved and unpaved roads in the Valley, traffic counts and related speed estimates. A key element of fugitive dust calculations is the silt loading on roads. The last emission inventory prepared for the Mendenhall Valley\* occurred in 1988. A review of the 1988 inventory shows silt loadings were collected locally to support the preparation of fugitive dust emissions for unpaved roads and national average silt loadings were used to estimate on-road levels. Since no controls have been targeted at controlling silt loadings for unpaved roads, there was no need to update those estimates. However, CBJ enacted a paving program reducing the miles of unpaved roads. A corollary benefit of these controls should be a reduction of silt loadings (from fugitive dust) on paved roads. Given resource constraints, ADEC has not collected new data on silt loadings for the paved roads, resulting in conservative emission estimates.

In the 1988 emission inventory, fugitive dust from unpaved roads was estimated to account for 40% of the overall inventory. In 2004, unpaved roads accounted for 5.2% of the overall inventory. In 2018, the projection is 5.3%. The projected level of emissions from unpaved roads in 2018 is based on the conservative assumption that all unpaved roads in the Mendenhall Valley in 2004 would remain unpaved in 2018. Efforts by CBJ and the State to continue to pave sections of unpaved roads in the Valley will likely reduce the projected percent emission contributions below the 2018 estimate.

PM<sub>10</sub> emissions from wood burning (both fireplaces and stoves) were estimated to account for almost 9% of the annual inventory in 1988. In 2004, that share declined to less than 2% and is projected to remain roughly at that level in 2018. Based on the results of an extensive survey of homeowners conducted in 2004, it is estimated that the combination of new technology, related shifts in wood use, and implementation of wood burning control measures reduced emissions by 85% from 1993 to 2004. These trends should continue into the future.

Other trends of note are that emissions from both the on-road and non-road source categories represent a trivial portion of the overall inventory. On-road and nonroad source emissions are projected to decline despite the increase in activity projected to occur between 2004 and 2018. This is the result of replacing older, higher-emitting vehicles/equipment populations with newer, lower-emitting populations and stricter federal requirements for cleaner fuels.

There is only one permitted stationary source located in the Valley, an asphalt plant, and its operations are limited to 5 months per year during the summer season.

### **Control Measures Necessary to Maintain the NAAQS**

The Mendenhall Valley relied on the RACM measures summarized previously to attain the standard. The RACM measures continue to be implemented and have proven effective at reducing PM<sub>10</sub> emissions in the Mendenhall Valley nonattainment area.

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\*. "PM10 Emission Inventories for the Mendenhall Valley and Eagle River Areas," prepared for U.S. Environmental Protection Agency, Region X, by Engineering Science, February 1988.

In accordance with the EPA's LMP policy, all controls relied on to demonstrate attainment will remain in place through the maintenance plan period. The RACM measures selected were chosen from a list of proven controls developed by the EPA. EPA approved Mendenhall Valley control measures effective April 25, 1994 (59 FR 6954, March 24, 1994). No additional LMP control measures are necessary to maintain the NAAQS.

The following measures have been adopted into municipal code under Chapter 36.40 Solid Fuel-Fired Devices; 03.30.055 Woodsmoke Control Fine Schedule; and Chapter 19.11 Thermal Code and will remain in the LMP (also see Appendix III.D.3.5):

**City & Borough of Juneau Ordinances:**

- **#83-63** – “An Ordinance Regulating Open Burning and the Use of Wood-Fired Heating Devices in Smoke Hazard Areas”
- **#88-59** – “An Ordinance Amending the Woodsmoke Control Code to Implement a New Measurement System for Measuring Air Pollution, to Adopt Federal Standards for the Issuance of Class I Permits for NonCatalytic Solid Fuel-Fired Heating Devices, and to Delete References to Oregon State Woodstove Standards.”
- **#91-52** – “An Ordinance Amending the Woodsmoke Control Code to Lower the Particulate Count Threshold for Declaring Air Alerts, to Authorize the Manager to Declare an Air Alert According to Certain Qualitative Criteria, to Provide for the Expiration of All Existing Class I Permits on July 1, 1997, to Terminate the Manager's Authority to Issue New Class I Permits, and to Prohibit the Burning in Woodstoves of Substances Other Than Paper, Cardboard, and Untreated Wood.”
- **#91-53** – “An Ordinance Amending the Woodsmoke Control Fine Schedule to Increase the Fines for Violations of the Woodsmoke Control Code.”
- **#93-01** – Ordinance on Local Improvement Districts
- **#93-06** – An Ordinance Creating Local Improvement District No. 76 of the City and Borough of Juneau.
- **Fiscal Year 1994 CP-1s**
- **Resolution #1612**
  
- **#2008-28** “An Ordinance Amending the Woodsmoke Control Program Regarding Solid Fuel-Fired Burning Devices”. This ordinance has been incorporated into CBJ Code at Title 36.40.040 “Air pollution alert and emergencies”. Under this ordinance, the manager shall declare an air pollution emergency to be in effect whenever the ambient concentration of particulate matter within the air pollution zone equals or exceeds 30 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) averaged over a 24-hour period and will remain at or above 30  $\mu\text{g}/\text{m}^3$  if an emergency is not called. This ordinance is more stringent than the previous ordinance which set the particulate matter limit at 75  $\mu\text{g}/\text{m}^3$ . Refer to Appendix III.D.3.5 for complete ordinance language.
  
- **Resolution #2448**- With this resolution, the City & Borough of Juneau approved the draft PM10 Limited Maintenance Plan, dated May 10, 2007. Resolution approved August 11, 2008.

### III.D.3.9. Maintenance Demonstration

The Maintenance Plan will continue the controls of the attainment plan. The following are the criteria that must be met to demonstrate maintenance and meet LMP requirements. With each criteria is a description of how the criteria are being met.

**Policy:** *“The area is attaining the NAAQS and the average PM<sub>10</sub> design value for the area, based on the most recent 5 years of air quality data at all monitors in the area, is at or below 40 µg/m<sup>3</sup> for the annual and 98 µg/m<sup>3</sup> for the 24-hr PM<sub>10</sub> NAAQS with no violations at any monitor in the nonattainment area.”*

The Mendenhall Valley:

- is attaining the standard.
- has a 24-hour average design value based on 1995-2004 of 53.8 µg/m<sup>3</sup>.
- has had no violations of the 24-hour PM<sub>10</sub> NAAQS since 1992.

**Policy:** *“The area expects only limited growth in on-road motor vehicle PM<sub>10</sub> emissions (including fugitive dust).”*

When adjusted for future on-road mobile emissions, the Mendenhall Valley passes a motor vehicle regional emissions analysis test with a design value of 56.85 µg/m<sup>3</sup>. This is less than the 98 µg/m<sup>3</sup> used as the margin of safety in the LMP guidance.

The following equation was used in the analysis of motor vehicle emissions for the Mendenhall Valley. The analysis determines eligibility of the Mendenhall Valley for a LMP. The equation is based on the U.S. EPA guidance titled “Limited Maintenance Plan Option for Moderate PM<sub>10</sub> Nonattainment Areas.” (Attachment B: Motor Vehicle Regional Analysis Methodology). The equation set forth in this guidance is:

$$DV + (VMT_{pi} * DV_{mv}) \leq MOS$$

Where

DV = design value in µg/m<sup>3</sup>

VMT<sub>pi</sub> = projected increase in vehicle miles traveled (VMT) over the next 10 years

DV<sub>mv</sub> = product of the design value and the fraction of the inventory represented by on-road mobile sources in the attainment year; and

MOS = margin of safety for PM<sub>10</sub> or critical design value, which are 40 µg/m<sup>3</sup> for the annual standard and 98 µg/m<sup>3</sup> for the 24-hour standard.

ADEC has assumed the attainment year to be 2004, the year for which the most recent Mendenhall Valley nonattainment area emissions inventory was prepared. VMT is projected to increase over the next 10 years based on the projected

population growth. Travel modeling data are not available for Mendenhall Valley. The 24-hour and annual PM<sub>10</sub> design values were derived from the data obtained from William Puckett of EPA Region 10 (Appendix to Section III.D.3.9). The EPA analysis conservatively used 10 years of monitoring data to estimate the design value. ADEC applied the same design values for this analysis. The left hand term of the above equation was estimated using seasonal (summer and winter) and annual inventories. Based on the criteria given above, the Mendenhall Valley qualifies for the LMP option for the 24-hour and annual PM<sub>10</sub> standard for all considered cases. Details of the calculations are shown below:

The parameter values used for the calculations are as follows:

- 24-hour DV = 53.8 µg/m<sup>3</sup>;
- Annual average DV = 9.4 µg/m<sup>3</sup>; and
- Projected % increase in VMT in next 10 years, VMT<sub>pi</sub> = 6.39%.
- The percentages of the total inventory from on-road mobile sources in 2004 are:
  - Summer fraction = 90%,
  - Winter fraction = 84%, and
  - Annual fraction = 88%.

The results of the calculations are shown in Table III.D.3.9-1 compared to the margin of safety (MOS) or critical design values for the 24-hour and annual standard. As shown, the calculated values are much less than the critical design values and the area passes the regional analysis criteria. Criterion 4 is met.

**Table III.D.3.9-1**

**Calculated [DV + (VMT<sub>pi</sub> \* DV<sub>mv</sub>)] for Mendenhall Valley**

Standard	Summer	Winter	Annual	MOS Criteria
Annual	9.90	9.86	9.89	≤ 40
24-Hour	56.90	56.71	56.85	≤ 98

Based on the analysis of the LMP criteria, ADEC requests EPA consider the Mendenhall Valley nonattainment area as qualified for the LMP option.

### **Monitoring Network**

A PM<sub>10</sub> monitoring network was established in the Mendenhall Valley area in 1984. Total suspended particulate was monitored at some sites starting in the 1970s. Monitoring sites have been located in nine different locations since that time. The monitoring network was developed and has since been maintained in accordance with federal siting and design criteria set forth in 40 CFR Part 58, Appendices D and E and in consultation with EPA Region 10.

Primary monitoring for PM<sub>10</sub> in the Mendenhall Valley occurs at the Floyd-Dryden Middle School monitoring site described in III.D.3.4. Monitoring will continue through the LMP period. The network will be maintained in accordance with federal siting and design criteria set forth in 40 CFR Part 58.

#### **Verification of Continued Attainment**

Monitoring will be used to verify continued maintenance of the standard through the maintenance plan period. ADEC will annually recalculate the design value using the most recent five years of monitor data in order to verify the area continues to qualify for the LMP option. The result will be reported to the EPA.

In the event the area does not continue to qualify for the LMP option, ADEC will implement one or more of the LMP contingency measures, described in III.D.3.10. If the area fails a second time to qualify for the LMP option, a full maintenance plan will be prepared as required by the LMP policy.

#### **Natural Events**

There have been no exceedances attributed to natural events in the Mendenhall Valley area.

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### **III.D.3.10 Contingency Provisions**

Section 175A of the CAA requires that a maintenance plan include contingency measures in order to promptly correct any violation of the standard that occurs after the redesignation of the area to attainment. Normally, the implementation of contingency measures is triggered by a violation of the NAAQS but the state may choose to establish more stringent triggers, such as an exceedance of the NAAQS, in order to prevent a violation. Contingency measures do not have to be fully adopted at the time of redesignation, but they must be readily adopted if they are triggered.

This section identifies a process and a time-line to identify and evaluate appropriate contingency measures in the event of a quality assured violation of the PM<sub>10</sub> NAAQS. ADEC and CBJ may, however, voluntarily initiate this or a similar local process to identify and evaluate appropriate contingency measures necessary to prevent such a violation.

#### **Contingency Measures Assessment**

Within 30 days following a violation of the PM<sub>10</sub> NAAQS, ADEC and CBJ will convene a team to identify appropriate measures needing to be implemented. Identified contingency measures may include but are not limited to those listed below.

The assessment team will prepare and deliver a report containing its recommendation, within 120 days for the ADEC Commissioner, City Manager, and assembly based on evaluation of the:

- monitor data before and during the event;
- weather conditions that may have caused and/or contributed to violation.
- normal and unusual emissions occurring prior to and during the event.
- effectiveness of existing controls in reducing the magnitude and/or duration of the event(s).
- appropriateness of modifying and/or implementing one or more LMP contingency measures
- possible changes to the LMP, monitoring network, and public information strategies; and
- the need for additional voluntary or regulatory controls to reduce future emissions.

Local actions resulting from the assessment team's recommendations will be at the discretion of the ADEC Commissioner and City Manager and assembly. The assembly may adopt and implement contingency measures as needed.

#### **LMP Contingency Measures**

The following LMP contingency measures may come into effect in the event of a PM<sub>10</sub> NAAQS violation, subject to the assessment described above. One applies to unpaved

roads and parking lot emissions and one applies to residential wood combustion emissions.

### **Fugitive Dust**

Paving of Unpaved Roads: The Mendenhall Valley still has a number of unpaved roads. In the event of a NAAQS violation, the CBJ will determine whether or not to pave any or all of the remaining roads.

Other contingency measures remain in the SIP, including:

- Controlling spills from trucks hauling particulate-producing materials;
- Requiring installation of liners on truck beds;
- Requiring watering of loads;
- Requiring cargo that cannot be controlled by other measures to be covered;
- Requiring trucks to maintain a freeboard;
- Establishing controls on construction carryout and entrainment;
- Requiring construction activities to limit and remove the accumulation of dust generating materials;
- Requiring paving of construction site access roads;
- Requiring the developer of a construction site to clean soil from access road and public roadway;
- Requiring control of vehicle entrainment from unpaved areas adjacent to paved roadways;
- Requiring stabilization of unpaved areas adjacent to paved roads, such as shoulders;
- Controlling storm water from washing eroded materials onto the street;
- Developing adequate storm water control systems;
- Requiring vegetation to stabilize road sides;
- Developing programs for the rapid clean up of street debris after events;
- Controlling wind erosion from outdoor storage of loose material that could be direct emitters of PM<sub>10</sub>;
- Requiring covers over outdoor material that may produce dust in wind storms; and
- Requiring wind breaks in the vicinity of outdoor storage piles.

### **Wood Smoke**

Burn Bans: CBJ code contains provisions to ban wood burning on bad air days and enforce the ban with fines.

Other contingency measures remain in the SIP to address wood smoke, including:

- Establishing an enhanced public information campaign including education in stove selection, sizing, installation, operation, and maintenance practices to minimize emissions;
- Establishing an enhanced public information campaign including education on health risks from wood smoke, new technology stoves, and alternatives to wood heating;

- Encouraging improved performance of wood burning devices such as providing voluntary dryness certification programs for dealers and/or making inexpensive wood moisture checks available to wood burners;
- Providing other inducements that would lead to reductions in the stove and fireplace population such as discouraging the availability of free (or very inexpensive) firewood by increasing cutting fees or limiting the cutting season.

The assessment team will also consider recommending other contingency measures that may more appropriately address the most probable source contributing to the violation. The CBJ, or other appropriate agency, may adopt and implement contingency measures other than those listed above, as needed.

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### **III.D.3.11. Conformity for LMP Areas**

The transportation conformity rule and general conformity rule apply to nonattainment and maintenance areas. Under either rule, an acceptable method of demonstrating that a federal action conforms to the applicable SIP is to demonstrate that expected emissions from the planned action are consistent with emissions budget for the area.

Although EPA's LMP policy does not exempt an area from the need to demonstrate conformity, it allows the area to do so without submitting an emissions budget, because data demonstrates no violation of the NAAQs will occur due to reasonable growth projections. For transportation purposes, the emissions in a qualifying LMP area need not be capped for the maintenance period and thus no regional emissions analysis is required. Regional transportation conformity is presumed due to the limited potential for emission growth in the area during the LMP period. A regional emissions analysis and associated regional conformity requirements (40 CFR 93.118 and 93.119) are no longer necessary. Similarly, Federal actions subject to the general conformity rule would automatically satisfy the "budget test" specified in Section 93.158(a)(5)(i)(A) for the same reasons.

However, since the Mendenhall Valley will still be a maintenance area after redesignation, transportation conformity determinations are still required for transportation plans, programs (TIPs) and projects. The conformity determination for the plan and TIP should state that a regional emission analysis is not required because the area has an approved LMP. The Plan and the TIP should still be made available for public review. The portions of the conformity rule that still apply are found in 40 CFR 93.112 and 93.113 and the consultation requirements as specified under state regulation, 18 AAC 50 .715 and 50.720.

In addition transportation projects would still need to meet the criteria for PM<sub>10</sub> hot spots (40 CFR 93.116 and 93.123) and for PM<sub>10</sub> control measures (40 CFR 93.117). ADEC will continue to work with the affected jurisdictions and interested parties to develop an evaluation criteria and process to meet these transportation conformity requirements.

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### III.D.3.12 Redesignation Request

The department is requesting redesignation of the Juneau Mendenhall Valley PM<sub>10</sub> nonattainment area to attainment of the PM<sub>10</sub> NAAQS. In order to qualify for the LMP option, an area must satisfy criteria summarized previously. The following is a description of how the criteria are being met:

1. The area should be attaining the National Ambient Air Quality Standards – Juneau has met the air quality standard since 1994.
2. The average PM<sub>10</sub> design value for the area, based on the most recent 5 years of air quality data at all monitors in the area, should be at or below 40 ug/m<sup>3</sup> for the annual and 98 ug/m<sup>3</sup> for the 24 hour PM<sub>10</sub> NAAQS with no violations at any monitor in the nonattainment area – There have been no violations in the nonattainment area. The average 24 hour design value over the last 10 years of data is 53.8 ug/m<sup>3</sup>.
3. If criteria 2 cannot be met, the average design values of the site should be less than their respective site-specific critical design value (CDV). Criteria 2 has been met.
4. The area should expect only limited growth in on-road motor vehicle PM<sub>10</sub> emissions (including fugitive dust) and should have passed a motor vehicle regional emissions analysis test. Fugitive dust from unpaved roads is only projected to increase by 0.1% between 2004 and 2018. This assumes no additional roads are paved. The analysis of regional motor vehicle emissions shows values well below the critical design values.

In part, criteria for the LMP qualification are based on a statistical analysis such that, when satisfied, demonstration of maintenance is established. It is apparent that the Mendenhall Valley nonattainment area qualifies for the LMP option. Having qualified for the LMP option, maintenance of the standard is presumed to be satisfied.

ADEC believes this document contains all necessary information and adequately demonstrates the Mendenhall Valley should be reclassified as attainment under the Limited Maintenance Plan option. Therefore, ADEC formally requests that EPA approve redesignation of the Mendenhall Valley nonattainment area to attainment under this Limited Maintenance Plan.

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