Salem-Keizer Area Carbon Monoxide Limited Maintenance Plan

State Implementation Plan

Volume 2

Section 4.57

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Salem-Keizer Area Carbon Monoxide Limited Maintenance Plan

Oregon State Implementation Plan
Volume 2, Section 4.57

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4.57.0 Acknowledgement and Summary

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4.57.1 Introduction

4.57.1.0 Purpose of the Limited Maintenance Plan

This air quality maintenance plan was developed to demonstrate that the Salem-Keizer Area Transportation Study, as defined in OAR 340-204-0010 (the Salem-Keizer area), has met the National Ambient Air Quality Standard (NAAQS) for carbon monoxide (CO) and to allow the area to be officially redesignated for CO. The plan is written as a "limited" maintenance plan and will ensure that the area continues to comply with CO standard in the future. This document is developed in accordance with the federal Clean Air Act and the policies of the U.S. Environmental Protection Agency (EPA).

4.57.1.1 History of CO Problem in the Salem-Keizer Area

In 1974, DEQ began monitoring CO concentrations in the Salem-Keizer area and results indicated the region failed to meet the 8-hour NAAQS of 9 parts per million (ppm). On March 3, 1978, EPA officially designated the area as "nonattainment" for that pollutant. The area was further identified as "not-classified" as to the degree of nonattainment due to insufficient data. On June 29, 1979, the Oregon Department of Environmental Quality (DEQ) submitted a CO Control Strategy to EPA as required by the 1977 Clean Air Act. That plan relied primarily on the Federal Motor Vehicle Emission Control Program to bring the area into compliance. EPA approved DEQ's attainment plan on June 24, 1980.

CO concentrations improved and the Salem-Keizer area achieved the NAAQS for CO in 1987 based on monitoring data from the previous two years. Since then, vehicle emission standards have become progressively more restrictive and CO emissions from motor vehicles declined steadily. Because the highest CO concentrations in the Salem area are caused by vehicle emissions, the tighter emission standards caused the area's CO concentrations to continue to decline. CO concentrations are now approximately half of what the NAQQS for CO requires and CO levels are expected to stay low as cleaner new vehicles make up an increasing proportion of the fleet.

4.57.1.2 National Ambient Air Quality Standards for Carbon Monoxide

CO is a colorless, odorless gas that displaces oxygen in the body's red blood cells through normal respiration. The major human-caused source of annual CO is incomplete combustion of carbon-based fuels primarily through the use of gasoline-powered motor vehicles. Other important sources of CO emissions are woodstoves, fireplaces and industrial boilers. Most serious CO concentrations occur during winter in urban areas, when cooler temperatures promote incomplete combustion and when CO emissions are trapped near the ground by atmospheric inversions.

The Clean Air Act requires EPA to establish National Ambient Air Quality Standards (NAAQS) for six common air pollutants including CO. EPA set the NAAQS for CO at 35 parts per million (ppm) averaged over a 1-hour period and 9 ppm averaged over an 8-hour period. Like most areas of the country that failed to meet the CO NAAQS, the Salem-Keizer area did not meet the 8-hour portion of the standard.

The Code of Federal Regulations (40 CFR part 50.8) defines how ambient air quality monitoring data are to be compared to the applicable NAAQS. It states that monitoring data should be expressed to one decimal place, and that standards defined in parts per million should be compared "in terms of integers with fractional parts of 0.5 or greater rounding." EPA interprets this rule to mean that any 8-hour CO concentration less than 9.5 ppm meets the standard. Any CO value monitored at or above 9.5 ppm is an exceedance. Two exceedances in one calendar year constitute an air quality violation. Therefore, it is the second-highest CO concentration that determines if an area attains the air quality standard.

Demonstrating attainment of the standard requires monitoring ambient air quality using approved instruments and procedures and verifying the results with a formal quality assurance/quality control program. Air quality measurements taken in the Salem-Keizer area show that the area has not violated the CO standard since 1985 and easily satisfies EPA's requirements as shown in Section 4.57.2.

4.57.1.3 Maintenance Plan Criteria/Organization of Document

Section 175A and related provisions of the Clean Air Act establish the criteria that must be satisfied for an air quality maintenance plan update:

- Attainment of NAAQS for CO
- Full approval of the State Implementation Plan (SIP) under section 110(k)*
- Demonstration that air quality improvement is due to permanent and enforceable emission reductions.
- Full approval of CO maintenance plan under section 175A
- Fulfillment of all applicable Section 110 requirements*

The following sections summarize these criteria and refer to additional discussion of each topic elsewhere in this document.

*Section 110 describes general provisions needed for a SIP. Section 110(k) addresses Clean Air Act requirements applying to the redesignation of a specific area to attainment.

Attainment Verification

A maintenance area must continue to meet the applicable NAAQS. Attainment of the NAAQS for CO in the Salem-Keizer area is discussed in Section 4.57.2, "Attainment Demonstration."

SIP Approval

EPA must have fully approved the applicable SIP for the area pursuant to Section 110(k) of the CAA. Compliance with these requirements are addressed in Section 4.57.4 of this plan.

Permanent and Enforceable Improvements in Air Quality

Permanent and enforceable reductions in emissions and improved ambient CO concentrations in the Salem-Keizer area are discussed in section 4.57.2.

Maintenance Plan Elements

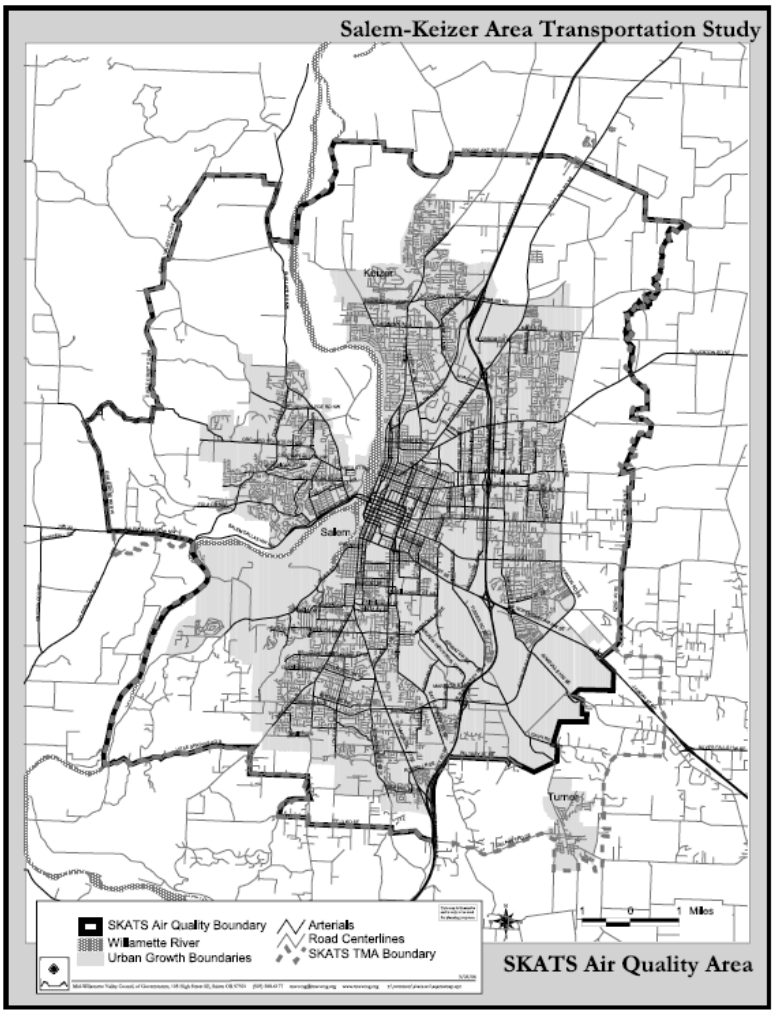
Section 175A of the Clean Air Act requires a request for redesignation to be supported by a plan that will provide for maintaining the national ambient air quality standard ten years into the future. The maintenance plan must be submitted to EPA as a revision to the State Implementation Plan and includes the following required elements:

Section 4.57.2: Attainment Emissions Inventory
Section 4.57.3: Maintenance Demonstration
Section 4.57.3: Contingency Plan
Section 4.57.4: Administrative Requirements

4.57.1.4 Salem-Keizer Air Quality Control Area

The CO air quality control area regulated by this plan is the Salem-Keizer Area Transportation Study area as it existed before the addition of the Turner region at the Southeast. The area is shown below:

Figure 1



4.57.2 ATTAINMENT DEMONSTRATION

4.57.2.1 Ambient Air Quality Monitoring Program

DEQ has been monitoring ambient CO concentrations in the Salem-Keizer area since 1974. Monitors were located at ”hot spot” areas with the highest potential to exceed the standard. Monitoring locations were identified using EPA’s protocol and the use of periodic sampling (sampling surveys or bag studies) at prospective locations. During the CO season, monitors operated continuously with 1 hour and 8 hour average CO concentrations being derived electronically via data loggers and integrators. After the results were reviewed for quality assurance, the measurements were entered into the Aerometric Information Retrieval System (AIRS) to provide EPA with DEQ’s air quality data.

The Salem-Keizer area has had three CO monitoring sites. The first was at the Valley Answering Service at 498 SE Church St. NE in Salem. Monitoring was shifted to 690 Lancaster Ave. NE Salem after a sampling survey in 1988/1989 indicated that location was likely to have the highest CO levels. When DEQ’s monitoring site lease at that location was terminated in 1992, the monitor was moved North to the Market and Lancaster site (1685 Lancaster Ave. NE Salem). Air sampling continued at that location with generally decreasing values until sampling was suspended in 2006.

DEQ ended CO monitoring in the Salem-Keizer area because both local Salem CO levels and national trends for CO concentrations confirm that CO levels across the county will remain significantly below federal health standards into the future. DEQ will continue to track the potential increase of CO by inventorying CO emissions every three years as part of the National Emission Inventory process. Should emissions increase significantly in the future, DEQ will resume CO monitoring. In addition, DEQ will track CO measurements in other areas of the state (Portland, Eugene and Medford) where monitors remain. If ambient CO levels rise significantly, DEQ will resume monitoring in Salem-Keizer as specified in section 4.57.3.

4.57.2.2 Summary of Ambient CO Data

Each recording of a CO concentration higher than the NAAQS is an exceedance. Two exceedances at a given monitor in a single year constitute a violation. Therefore, it is the second highest reading in a given year that determines if an area complies with the CO standard.

Monitoring in Salem-Keizer demonstrates that the area last violated the CO NAAQS in 1985. The only exceedance of the 8-hour CO NAAQS since then occurred November 11, 1993 when a reading of 9.7 ppm was registered at the Market and Lancaster site.

The highest and second highest CO concentrations at the Salem-Keizer monitor over the past two decades are shown below. Again, the National Ambient Air Quality Standards for CO are 35 ppm (maximum 1–hour average), and 9 ppm (maximum 8-hour average).

Table 1 Highest CO Concentrations (ppm): 1986 to 2005

STATION LOCATION AND NUMBER	YEAR	1-HOUR AVERAGES MAXIMUM	2ND HIGH	Number of Days Over >9ppm	8-HOUR AVERAGES MAXIMUM (date)	2ND HIGHEST (date)
Salem						
Valley Answering Service	1986	18.1	16.6	0	7.5 (12/28)	7.1 (10/31)
498 Church St. NE	1987	14.0	13.8	0	8.5 (12/30)	8.0 (02/06)
	1988	11.6	11.5	0	7.1 (02/27)	6.4 (12/17)
	1989*	10.5	8.8	0	4.6 (01/20)	4.1 (01/28)
Lancaster Ave.	1990*	12.8	11.6	0	7.8 (12/15)	7.7 (10/26)
690 Lancaster NE	1991	13.9	12.5	0	9.8 (01/05)	8.0 (12/13)
	1992	14.9	12.4	0	8.6 (02/04)	8.2 (02/06)
Market & Lancaster (SML)	1993	14.8	13.2	1	9.7 (11/11)	8.8 (12/28)
DEQ # 10131 EPA # 41040039	1994	10.5	10.3	0	9.0 (02/06)	7.8 (02/03)
	1995	10.7	9.8	0	6.2 (11/03)	5.4 (02/03)
	1996	10.5	9.6	0	7.8 (02/15)	7.1 (11/01)
	1997	8.2	8.1	0	6.2 (11/02)	5.3 (01/15)
	1998	7.9	7.9	0	4.7 (10/26)	4.6 (10/05)
	1999	7.7	7.7	0	5.9 (01/05)	5.9 (12/23)
	2000	8.5	8.4	0	5.5 (11/16)	5.4 (01/18)
	2001	7.5	7.2	0	6.0 (11/09)	5.1 (11/10)
	2002	7.6	7.3	0	5.6 (11/26)	5.2 (11/03)
	2003	7.1	6.9	0	5.2 (01/07)	4.9 (01/07)
	2004	5.6	5.4	0	4.2 (11/06)	3.8 (11/05)
	2005	7.5	6.1	0	4.9 (11/06)	3.7 (11/23)

*Winter data only

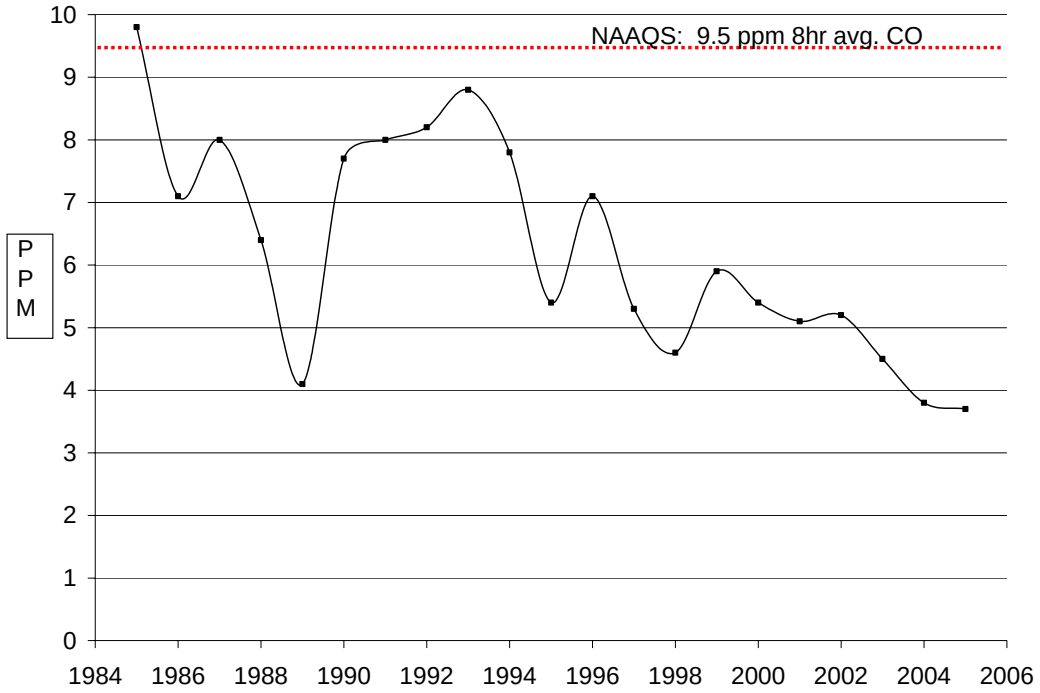
The five highest 8 hour average CO concentrations for the last five years are shown below:

Table 2 Five Highest 8-Hour CO Concentrations (ppm):

Market & Lancaster (SML)	
11/09/2001	6.0
11/26/2002	5.6
01/07/2003	5.2
11/03/2002	5.2
11/10/2001	5.1

A graph of the second highest 8-hour CO averages at the Salem-Keizer monitor is shown below:

Figure 2: Salem Area 2nd Highest CO Average: 1986 to 2005



4.57.2.3 Permanent and Enforceable Improvement in Air Quality

Permanent Emission Reductions

Control measures used to attain the CO National Ambient Air Quality Standard were:

- Federal Motor Vehicle Emissions Control Program (establishing emission standards for new motor vehicles).
- Major New Source Review with Best Available Control Technology (BACT).

It is noted the Salem-Keizer area attainment plan relied on only these federal control measures (45 FR 42275).

Representative Baseline Period

As a condition of redesignation, EPA requires that air quality improvements not be the result of temporary factors such as slow economic periods or unusually favorable meteorology. For this reason, DEQ cites the CO monitoring conducted over the previous 20 years to demonstrate that Salem-Keizer is clearly well below the allowable standard, and these conditions are expected to continue.

DEQ also conducted the emissions inventory supporting this maintenance plan for the year with the highest second-high CO measurements in the last ten-year period. That

second-high reading occurred in 1999 at an 8-hour average CO concentration of 5.9 ppm. This measurement also serves as the CO "design value" for the Salem-Keizer area. Selection of 1999 as the reference year provides further assurance that the emissions considered in this plan do not represent an unrealistically optimistic period.

The use of 1999 as the baseline Emission Inventory year is supported by an emission factor analysis of on-road motor vehicles. As mentioned earlier, the highest CO concentrations in the Salem-Keizer area are caused by on-road motor vehicles in areas of congested traffic. While congestion has arguably gotten worse in recent decades, the CO emission rate of an average on-road vehicle has improved dramatically. The improvement in CO emission rates is credited for most of the overall reduction in CO concentrations throughout the nation.

The reduction of motor vehicle CO emission rates will continue well into the future. DEQ calculated past and future "composite" CO emission factors (representing the average of all on-road vehicles) using EPA's Mobile 6.2 Emission Factor model. The results clearly show that fleet-average CO emission rates will continue to decline well below the 1999 inventory year.

Table 3 Fleet-Average CO Emission Factors for On-Road Motor Vehicles*

1999	2002	2005	2008	2011	2014	2017
32.8	28.5	22.0	17.8	15.2	13.5	12.4

*Emission Factors are expressed as grams of CO per mile for an average winter day. Factors were generated with EPA's Mobile 6.2 computer model using local temperature and fuel characteristics together with national-average fleet data.

The strong decline in emission rates supports the use of 1999 as the emission inventory year. The higher emission factors of 1999 make it as good as--or more conservative than—the use of a more recent emissions year.

4.57.2.4 Demonstration That DEQ's CO Network May Reasonably Be Considered Representative Of Worst Case CO Concentrations

This section presents evidence that the locations of the DEQ monitors for CO represent "worst case" or peak level concentrations. Specific elements include:

- wide ranging field sampling conducted by DEQ to identify areas with high peak CO levels,
- screening techniques used to identify intersections with apparent potential for high CO concentrations, and
- historical field studies showing that the DEQ CO network tends to record higher CO concentrations than screened intersections.

4.57.2.5 Comprehensive CO Field Studies

DEQ has repeatedly tried to identify localized areas that experience the highest peak CO concentrations. It conducted studies that included monitoring at several dozen locations during the winters of 1984, 1988-89, and 1994-95. The 1984 study found that the current monitor at the Valley Answering Service was not well located for observing the maximum 8-hour average CO concentrations. The subsequent study in 1988-89 was designed to estimate the best location for a continuous CO monitor in the Salem-Keizer area. That effort suggested that the areas of the highest potential CO concentrations were at major traffic corridors rather than the central business district. The results of this study caused DEQ to relocate the Salem-Keizer monitor in 1990 to the heavily traveled Lancaster Avenue.

In the winter of 1994-95 DEQ conducted an additional sampling survey to further investigate the locations of the highest CO concentrations in the Salem area. Unfortunately, the study period consisted of unusually mild weather, and few conclusions could be drawn. However, it was noted that while the monitor in the central business district showed some high CO values, it was also shown to not be a site of maximum CO concentrations under worst case conditions.

These studies indicate that the Salem-Keizer CO site network was reasonably representative of worst case CO concentrations.

4.57.2.6 Conclusions Regarding Demonstration of Attainment

Ambient air monitoring results demonstrate that CO concentrations in the Salem-Keizer have decreased dramatically and are well within the NAAQS. That trend reflects a national pattern of newer vehicles producing considerably reduced amounts of CO. The extended length of time that Salem-Keizer has already been in attainment clearly demonstrates that the area's low CO concentrations are not the result of short term economic slow downs or unusual meteorological conditions.

4.57.3 MAINTENANCE PLAN

Section 175A of the Clean Air Act requires a state to submit a maintenance plan for EPA's approval as a condition for redesignation. For the Salem-Keizer area the maintenance plan uses the limited maintenance plan approach allowed under EPA policy. This maintenance plan applies to the 10-year period November 1, 2007 through November 1, 2017.

4.57.3.1 Limited Maintenance Plan Requirements

EPA policy allows CO "nonclassifiable" areas with CO levels meeting certain requirements to use streamlined requirements of a "limited" maintenance plan for redesignation. These requirements are specified in a memo from EPA's Joseph Paisie dated October 6, 1995 which is included at Appendix D11-1 to this plan. The limited maintenance plan requirements may be used if an area's design value is no higher than 7.65 ppm CO (85% or less than the CO standard allows) in recent years. With a design value of 66% of the CO standard in 1999, the Salem-Keizer area is clearly within the scope of EPA's policy and the limited maintenance plan provisions are applied herein.

4.57.3.2 Attainment Inventory

As part of the Salem-Keizer Limited CO Maintenance Plan update, DEQ developed an attainment emission inventory for the year 1999. The CO emission inventory reflects detailed estimates of CO emissions from all sources on a typical winter day. Emissions are grouped in four major categories: Industrial (Point) Sources, On-Road Mobile Sources, Non-Road Mobile Sources, and Area Sources as described below:

Industrial (Point) Sources

This group consists of stationary industrial sources that emit more than 100 tons per year of CO within the SKATS boundary or within a 25 mile radius of that boundary. Industrial sources that emit less than 100 tons per year CO are not included in this category.

Area Sources

Area sources consist of CO emissions from a wide variety activities distributed over a large area. In Salem-Keizer, the largest area sources of wintertime CO are woodstoves, fireplaces and residential burning of household waste.

On-Road Mobile Sources

On-road mobile sources of emissions are essentially emissions from vehicles licensed to operate on highways. They include cars, trucks, motorcycles, buses, vans and heavy duty vehicles.

Non-Road Sources

Non-road sources of CO emissions are those produced by motorized vehicles that are not typically operated on highways. These include commercial, industrial and construction equipment as well as lawn and garden equipment.

The inventory is used to establish a relationship between the type and amount of CO emissions in a given area and the resulting CO concentrations those emissions produce. The 1999 baseline year was chosen because that year reflects the highest ambient CO concentrations in Salem-Keizer's recent history. 1999 also represents a period when average CO emission rates of on-road motor vehicles were significantly higher than they are now or will be in the future as is demonstrated in section 4.57.2.3. As concluded in that section the 1999 emissions inventory year is as good as--or more conservative than--a more recent year for establishing baseline emissions.

In accordance with EPA guidance, 1999 industrial source emissions were based on *actual* industrial emissions rather than *permitted* (allowable) emission levels. On-road motor vehicle emissions were calculated using EPA's Mobile 6.2 emissions factor model in a link-based computer analysis using SKATS' EMME2 travel demand model. Details are provided in the Salem-Keizer Carbon Monoxide Nonattainment Area Maintenance Plan Emissions Inventory, Appendix D 11-2, which is summarized by Table 3 below:

Table 4 1999 Annual and Seasonal CO Emissions

		CO Emissions	
Area / County	Source Type	Annual (tons/year)	Seasonal Day (lbs/day)
SKATS CO NAA			
	Stationary Point *	10,293	57,168
	Stationary Area	25,840	239,142
	Mobile Non-Road	16,067	19,820
	Mobile On-Road	36,025	197,400
	Total All Sources	88,225	513,530
* includes additional industrial sources within 25 miles of the Salem-Keizer area			

As mentioned above, CO is primarily the result of incomplete combustion. Because combustion efficiency decreases at lower temperatures and because the sources of combustion change throughout the year, EPA requires that CO emissions be tallied during two different periods. The first period represents total annual emissions and the second represents average daily emissions per winter day. Categorizing mobile and stationary sources according to these different periods reveals how CO emissions vary over space and time in the affected area.

The winter season receives additional scrutiny because that is traditionally when low temperatures produced the highest CO emissions and ambient concentrations. Today however, the total seasonal variation is much less pronounced. Overall, CO Seasonal

Day emissions in 1999 were estimated to be 513,530 lbs. CO/day. That amount is only slightly higher than an annual daily average of 483,424 lbs. CO/day.
While emissions from Stationary Point sources and Mobile On-Road sources are relatively constant during the year, Stationary Area source emissions increase during cold weather and Mobile Non-Road emissions drop sharply. That is because Area Sources such as woodstoves and fireplaces are used primarily during winter and Mobile Non-Road emissions come from construction, lawn, and garden equipment which are mostly used during warm weather.

The emissions inventories reveal that the highest wintertime emissions are caused by woodstoves and fireplaces, however those sources of CO are distributed widely over the Salem-Keizer area at locations that do not move. Their emissions essentially contribute to a diffuse low-level background CO concentration.

In comparison, Mobile On-Road emissions come from the only sources that congregate in significant amounts. That occurs when cars and trucks are operated close together at areas of traffic congestion. While vehicle emission rates have declined steadily over the preceding decades, the tendency of Mobile On-Road sources to assemble spatially still makes this group the most likely to produce the highest CO concentrations.

4.57.3.3 Maintenance Demonstration

Given the CO levels that an area must have to qualify for a limited maintenance plan, EPA does not require limited maintenance plans to include a specific maintenance demonstration. There is no requirement to project emissions over the future ten-year period covered by the maintenance plan. EPA believes that for areas beginning the maintenance period at less than 85% of the 9 ppm CO limit, federal control measures provided by New Source Review for major industry and federal motor vehicle emission controls provide adequate assurance that the area will continue to maintain the standard over the initial 10-year maintenance period.

4.57.3.4 Motor Vehicle Emissions Budgets

EPA's guidance for a Carbon Monoxide Limited Maintenance Plan states that:

"When EPA approves a limited maintenance plan, EPA is concluding that an emissions budget may be treated as essentially not constraining for the length of the maintenance plan period because it is unreasonable to expect that such an area will experience so much growth in that period that a violation of the CO NAAQS would result."

Future Regional Transportation Plans and Transportation Improvement Programs which are subject to "transportation conformity" rules will be "assumed to comply" with the motor vehicle emission budget test. As a result, no CO Motor Vehicle Emission Budgets are required and none were developed.

4.57.3.5 Emission Reduction Measures

<u>Major New Source Review</u>

Upon redesignation for CO, the emission control requirement for new or expanding major industry in the Salem-Keizer area will change from Lowest Achievable Emission Rate (LAER) technology to Best Available Control Technology (BACT).

LAER technology is typically required in nonattainment areas that are violating air quality standards. It provides the highest and most expensive level of control and is appropriate in areas of failing air quality. In comparison, BACT is typically applied in attainment and maintenance areas—areas that are meeting air quality standards. BACT technology provides a very high level of control and in many cases specifies the same equipment as LAER. Both BACT and LAER are applied as part of a rigorous air quality permitting process but BACT allows substantial local economic, energy, environmental or other costs to be considered in determining the appropriate control technology.

Federal Motor Vehicle Emission Control Program

This Salem-Keizer maintenance plan continues to rely on federal emission standards for new motor vehicles. These requirements include the federal Tier II emission standards for new light and medium duty cars and trucks as well as standards for heavy duty on-road and non-road vehicles.

As noted earlier, On-Road Mobile Sources of CO are responsible for the highest CO concentrations in the Salem-Keizer area (as is the case in most parts of the country). That is because cars and trucks moving through an area can assemble in significant numbers at areas of heavy traffic. High CO concentrations typically occur over a small area close to a congested intersection; CO dissipates quickly over distance from a source. Therefore, it is these vehicles collected in traffic that produce the highest CO levels.

Emission reductions mandated by the Federal Motor Vehicle Emission Control Program have been primarily responsible for the large decrease in ambient CO concentrations in the past. Before CO emissions were regulated, a typical car of the 1950s emitted approximately 87 grams of CO per mile. Since then, federal rules have lowered CO emissions to the point where today's federal Tier II requirements limit cars to no more than 3.4 grams CO per mile—a 95% reduction of CO. This program will continue to be an effective control on critical On-Road Mobile Source emissions in the future.

Transportation Conformity

Federal and state transportation conformity rules require that nonattainment areas and maintenance areas demonstrate that emissions from an area's transportation system will stay within the amount of emissions anticipated by the area's air quality plan. This requires the local Metropolitan Planning Organization (MPO) to conduct a regional analysis of transportation emissions each time a Regional Transportation Plan (RTP) or Transportation Improvement Program (TIP) is adopted or amended. This analysis is conducted with computer modeling by the Salem–Keizer Area Transportation Study (which is associated with the Mid-Willamette Valley Council of Governments).

While EPA's Limited Maintenance Plan option does not exempt an area from the need to affirm conformity, it explains that the area may demonstrate conformity without submitting an emissions budget. Under the Limited Maintenance Plan option, emissions budgets are treated as essentially not constraining for the length of the maintenance

period because it is unreasonable to expect that the qualifying areas would experience so much growth in that period that a violation of the CO NAAQS would result. For transportation conformity purposes, EPA would conclude that emissions in these areas need not be capped for the maintenance period and therefore a regional emissions analysis would not be required. Similarly, Federal actions subject to the general conformity rule could be considered to satisfy the "budget test" specified in 40 CFR 93.158 (a)(5)(i)(A) for the same reasons that the budgets are essentially considered to be unlimited.

While areas with maintenance plans approved under the Limited Maintenance Plan option are not subject to the budget test, the areas remain subject to other transportation conformity requirements of 40 CFR part 93, subpart A. Therefore, SKATS and Oregon will document and ensure that:

(a.) Transportation plans and projects provide for timely implementation of SIP transportation control measures (TCMs) in accordance with 40 CFR 93.113 (Note that this limited maintenance plan does not designate any TCMs).;

(b.) Transportation plans and projects comply with the fiscal constraint element per 40 CFR 93.108;

(c.) The MPO's interagency consultation procedures meet applicable requirements of 40 CFR 93.105;

(d.) Conformity of transportation plans is determined no less frequently than every four years, and conformity of plan amendments and transportation projects is demonstrated in accordance with the timing requirements specified in 40 CFR 93.104;

(e.) The latest planning assumptions and emissions model are used as set forth in 40 CFR 93.110 and 40 CFR 93.111;

(f.) Projects do not cause or contribute to any new localized carbon monoxide or particulate matter violations, in accordance with procedures specified in 40 CFR 93.123; and

(g.) Project sponsors and/or operators provide written commitments as specified in 40 CFR 93.125.

General Conformity

Federal and state rules for general conformity require that federal actions (such as expanding an airport governed by the Federal Aviation Administration) may not produce emissions that conflict with an approved air quality plan. However, EPA concludes that "emissions budgets in limited maintenance plan areas may be treated as essentially not constraining... and that federal actions subject to the general conformity rule be considered to satisfy the budget test."

4.57.3.6 Continued Verification of Attainment

DEQ will calculate CO emissions every three years as part of the Statewide Emission Inventory which is submitted to EPA for inclusion in the National Emission Inventory (NEI). DEQ will review the NEI emissions estimates to identify significant increases over results reported for 2002. If NEI total annual CO emissions in Marion and Polk Counties increase above 2002 emission levels, DEQ will evaluate the nature of the emissions increase and resume ambient air quality monitoring if appropriate. If CO emissions from on-road motor vehicles in Marion and Polk Counties increase more than 20%, and the estimated increase is not due to a change of emissions factor computer models, DEQ will resume monitoring for CO in the Salem-Keizer area.

DEQ will also analyze CO air quality monitoring data from the remaining CO monitors in Oregon located in Portland, Eugene and Medford to verify that the Salem-Keizer area likely continues to attain the air quality standard. If the second highest 8-hour average concentration at any monitor exceeds 7.65 ppm CO, DEQ will resume monitoring directly in the Salem-Keizer area.

4.57.3.7 Contingency Plan

The maintenance plan must include a process to quickly prevent or correct any measured violation of the CO health 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 air quality conditions.

1. If DEQ’s periodic review of CO emissions specified in section 4.57.3.6 shows a significant increase in emissions, DEQ will reestablish ambient CO monitoring in the Salem-Keizer area.

2. If the highest measured 8-hour CO concentration in a given year in Salem-Keizer exceeds 85 percent of the 8-hr standard (7.65 ppm), DEQ will investigate the reasons for the CO increase, and take action as necessary to prevent a violation of standards.

3. If the Salem-Keizer area does violate the CO standard in the future the requirement for new and expanding industries to install LAER emission controls and to offset any new CO emissions will be automatically reinstated as specified in Oregon Administrative Rule 340-224-0060(5). DEQ will also take corrective action to bring the area into compliance while a new maintenance plan is developed for the area.

Compliance with the criteria for a limited maintenance plan and these provisions ensure that the Salem-Keizer area will not violate the CO NAAQS throughout the plan period.

4.57.4 ADMINISTRATIVE REQUIREMENTS

Administrative requirements for complying with Clean Air Act provisions are described below.

4.57.4.1 State Implementation Plan (SIP) Requirements

The Salem-Keizer area meets all requirements for the State Implementation Plan (SIP) specified in Section 110 of the federal Clean Air Act. Section 110 requires a former nonattainment area to provide for the implementation, maintenance and enforcement of an air quality standard.

4.57.4.2 Summary of Fully Approved SIP

The Salem-Keizer Area Carbon Monoxide Attainment Plan adopted in 1979 relied on the Federal Motor Vehicle Emissions Control Program and the industrial source permitting program to control CO emissions. EPA approved the attainment plan in October 1980. The current limited maintenance plan continues to rely on these programs.

4.57.4.3 1990 Clean Air Act Amendments

The 1990 Amendments to the Clean Air Act placed additional requirements on the Salem-Keizer area. These included the following:

a. 1990 emission inventory (to be revised every three years thereafter).
b. Transportation Conformity Rules.
c. New Source Review rules for major sources.
d. Contingency Measures.

4.57.4.4 Monitoring Network and Commitments

DEQ monitored CO concentrations in Salem-Keizer until March, 2006. At that time monitoring was discontinued in accordance with the terms of agreement between DEQ and EPA Region 10. This was done due to very low CO concentrations and the likelihood that CO concentrations will remain low in the future. DEQ will continue to operate and maintain the network of State and Local Air Monitoring Stations (SLAMS) and National Air Monitoring Stations (NAMS) in Portland, Eugene and Medford.

4.57.4.5 Verification of Continued Attainment

DEQ will calculate CO emissions every three years as part of the Statewide Emission Inventory which is submitted to EPA for inclusion in the National Emission Inventory (NEI). DEQ will review the NEI emissions estimates to identify significant increases over results reported for 2002. If NEI total annual CO emissions in Marion and Polk Counties increase above 2002 emission levels, DEQ will evaluate the nature of the emissions increase and resume ambient air quality monitoring if appropriate. If CO emissions from on-road motor vehicles in Marion and Polk Counties increase more than 20%, and the estimated increase is not due to a change of

emissions factor computer models, DEQ will resume monitoring for CO in the Salem-Keizer area.

DEQ will also analyze CO air quality monitoring data from the remaining CO monitors in Oregon located in Portland, Eugene and Medford to verify that the Salem-Keizer area likely continues to attain the air quality standard. If the second highest 8-hour average concentration at any monitor exceeds 7.65 ppm CO, DEQ will resume monitoring directly in the Salem-Keizer area

4.57.4.6Maintenance Plan Commitments

As part of the CO maintenance plan, DEQ commits to do the following:

- Inventory CO emissions in Marion and Polk Counties every three years,
- Track ambient CO concentrations at monitored sites in Oregon, and
- Resume ambient CO monitoring if the triggers cited in this plan are reached or trends indicate CO concentrations are increasing significantly.