Northern Ada County
PM_{10} State Implementation Plan
Maintenance Plan

Ten-Year Update

State of Idaho
Department of Environmental Quality

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Ten-Year Update

February 2013

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Table of Contents

1 Introduction and History 1
2 Northern Ada County PM_{10} Maintenance Area Description 2
3 Requirements for Maintenance Plan Update 3
3.1 NAAQS Attainment Verification 3
3.2 SIP Approval 3
3.3 Permanent and Enforceable Improvements in Air Quality 3
3.4 Full Approval of the PM_{10} Maintenance Plan 3
3.5 Maintenance Plan Elements 4
4 Air Quality Monitoring—Verification of Attainment 4
4.1 PM_{10} Monitoring 4
4.2 Quality Assurance Program 4
4.3 Continued Attainment of the PM_{10} Standard 4
4.4 Continued Air Monitoring and Verification of Attainment 4
5 Emissions Inventory 6
5.1 Base Year (2008) Annual and Episode Emissions Inventory 7
5.1.1 Area Sources 9
5.1.2 On-Road Mobile Sources 10
5.1.3 Non-Road Mobile Sources 11
5.1.4 Point Sources 11
5.2 Projected Inventories 12
5.3 Motor Vehicle Emissions Budget 13
5.3.1 MVEB for PM_{10} 13
5.3.2 MVEB for NO_x and VOC 14
5.3.3 MVEB Conclusion 14
6 Maintenance Demonstration 15
6.1 Air Quality Modeling Approach 15
6.2 Attainment Demonstration 16
6.2.1 Annual Average 16
6.2.2 Nonwinter High Crustal Mass Scenario 17
6.2.3 Nonwinter High Carbon Scenario 17
6.2.4 High Winter Scenario 18
6.2.5 Stagnant Winter Scenario 19
6.3 Modeling Summary 20
7 Permanent and Enforceable Improvement in Air Quality 21
7.1 Control Measures 21

7.1.1 Air Quality Index Program 21
7.1.2 Residential Wood Burning Program 21
7.1.3 Open Burning Ban Program 21
7.1.4 Stationary Source Control Measure 22
8 Contingency Plan 22
8.1 Tracking 23
8.2 Triggering 23
8.3 Potential Contingency Measures 23
9 Summary 24
9.1 Attainment Verification 24
9.2 Full Approval of the State Implementation Plan under Section 110 24
9.3 Permanent and Enforceable Improvement in Air Quality 24
9.4 Maintenance Plan Elements 24
9.5 Subsequent Maintenance Plan Revisions 24
References 25
Appendices 27

List of Figures

Figure 1. Northern Ada County PM_{10} Maintenance Area 2
Figure 2. PM_{10} annual emissions in the four source categories (to the nearest ton). 9
Figure 3. PM_{10} paved road dust compared to all other area sources. 10
Figure 4. Predicted annual average PM_{10} concentration (in micrograms per cubic meter). 16
Figure 5. Predicted 24-hour average PM_{10} levels (in micrograms per cubic meter) for high crustal mass scenario in nonwinter seasons. 17
Figure 6. Predicted 24-hour average PM_{10} levels (in micrograms per cubic meters) for high carbon scenario in nonwinter seasons. 18
Figure 7. Predicted 24-hour average PM_{10} levels (in micrograms per cubic meters) for high winter scenario. 19
Figure 8. Predicted 24-hour average PM_{10} levels (in micrograms per cubic meter) for stagnation scenario in winter season. 20

List of Tables

Table 1. Highest certified 24-hour average PM_{10} values measured at the Boise fire station. 5
Table 2. Annual average PM_{10} concentrations measured at Boise Fire Station #5. 6
Table 3. Annual emissions by source category—2008. 7
Table 4. Emission for winter seasons—2008. 8
Table 5. Emission for non-winter seasons—2008. 8
Table 6. Ada County paved road dust emissions. 10
Table 7. Annual emissions by source category—2015. 12
Table 8. Annual emissions by source category—2023. 12
Table 9. PM_{10} motor vehicle emissions budget. 14
Table 10. NO_x and VOC motor vehicle emissions budget. 14
Table 11. Predicted annual average PM_{10} levels. 16
Table 12. Predicted 24-hour average PM_{10} levels for high crustal mass scenario in nonwinter seasons. 17
Table 13. Predicted 24-hour average PM_{10} levels for high carbon scenario in nonwinter seasons. 18
Table 14. Predicted 24-hour average PM_{10} levels for high winter scenario. 18
Table 15. Predicted 24-hour average PM_{10} levels for stagnation scenario in winter season. 19

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1 Introduction and History

The Northern Ada County Maintenance Area was identified as an area of concern for PM_{10} with the promulgation of the PM_{10} National Ambient Air Quality Standards (NAAQS) in 1987 and was formally designated as a moderate PM_{10} nonattainment area upon passage of the 1990 Clean Air Act.[1] Idaho developed a state implementation plan (SIP) and submitted it to the United States Environmental Protection Agency (EPA) in November 1991, later submitting revisions in December 1994 and July 1995. EPA gave final approval to the Northern Ada County PM_{10} SIP in May 1996.

EPA revised the PM_{10} NAAQS in 1997, and Idaho demonstrated to EPA's satisfaction that it complied with the new standard. As a result, EPA rescinded the applicability of the PM_{10} NAAQS in Northern Ada County on March 12, 1999. Shortly thereafter, litigation at the national level vacated the new PM_{10} NAAQS. Subsequent litigation in Idaho to have EPA restore the federal standards for northern Ada County resulted in a settlement agreement that required Idaho to submit a PM_{10} maintenance SIP by September 30, 2002, and for EPA to take final action within one year. The *Northern Ada County PM_{10} SIP Maintenance Plan and Redesignation Request* (2002 maintenance plan) was submitted to EPA in September 2002. EPA approved the plan in September 2003, restoring northern Ada County to attainment status for PM_{10} (Environ 2002).

The control strategy in the 2002 maintenance plan includes the measures in the approved 1991 attainment SIP and additional contingency measures. The key 1991 SIP measures revised and enhanced in the 1994 and 1995 supplemental submissions and the 2002 maintenance plan are residential wood burning and open burning programs. Both consist of voluntary and mandatory burn bans in the various communities and unincorporated areas of northern Ada County during periods of high PM_{10} levels.

During the environmental impact and subsequent modeling stage of the 2002 maintenance plan development process, the Idaho Department of Environmental Quality (DEQ) identified 13 facilities with potentials to emit well in excess of their actual emissions. In accordance with the "Rules for the Control of Air Pollution in Idaho" (IDAPA 58.01.01.401.03), DEQ issued permits reducing allowable emissions from these facilities. In addition to these 13 point sources, the Amalgamated Sugar Company (TASCO) in Canyon County was shown to potentially contribute to PM_{10} exceedances in both Ada and Canyon Counties. To address this problem, DEQ issued a Tier II operating permit that required the company to reduce emissions sufficiently to address these air quality concerns.

Contingency measures in the 2002 maintenance plan include additional controls in the wood burning program and a reduction of fugitive road dust through a road sweeping program designed to reduce particulate emissions by prioritizing road sweeping for certain problem areas. Additional potential contingency measures include requiring material transport load covering, eliminating mud track-out onto paved roads, reducing uncontrolled outdoor burning, expanding the existing vehicle inspection and maintenance program in Ada County, prohibiting new

[1] PM_{10} is particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers.

unpaved roadways or parking lots through local ordinances, and including clean burning woodstoves in mandatory burn-ban situations.

During 1986–1991, seven recorded PM_{10} values exceeded the 24-hour standard (150 micrograms per cubic meter [$\mu g/m^3$]) in the Northern Ada County Maintenance Area. With one exception, the exceedances were all measured in winter months (January). The highest measured 24-hour PM_{10} value was 314 $\mu g/m^3$ measured at the downtown Boise fire station in January 1986. With the exception of an agricultural-influenced exceedance in 1997, no exceedances were recorded from 1992 through 2002. From 2003 through 2008, the highest measured 24-hour PM_{10} value was 97 $\mu g/m^3$ measured at the downtown Boise fire station. No exceedances were recorded during this time period.

Based on preliminary data, two exceedances were recorded on February 15 and 16, 2011 with a 24-hour average of 183 and 156 $\mu g/m^3$ respectively. DEQ is currently evaluating this exceedance. Sustained winds and extremely dry winter conditions contributed significantly to the event. Thus, the 3-year average number of 24-hour exceedances was less than one per year. Based upon monitoring data, the area has attained the 24-hour PM_{10} NAAQS. The now revoked annual PM_{10} standard of 50 $\mu g/m^3$ was never violated in northern Ada County.

Monitoring data show that northern Ada County has moved away from the preponderance of high peak values occurring in the winter season (i.e., PM season) to lower peaks, distributed through four distinct scenarios, which are discussed in section 6.

This maintenance plan fulfills the requirements for the northern Ada County maintenance plan update for the second 10-year maintenance period. The existing control measures in effect will remain unchanged. However, DEQ will request that the permit requirements for the facilities currently included in the Idaho SIP be removed. This request will demonstrate that the permit program is an adequate existing control measure for industrial sources. See specifically, IDAPA 58.01.01.401.03 (Appendix A).

2 Northern Ada County PM_{10} Maintenance Area Description

The Northern Ada County Maintenance Area includes the portion of Ada County north of the Boise baseline (43 degrees north latitude) as shown in Figure 1.

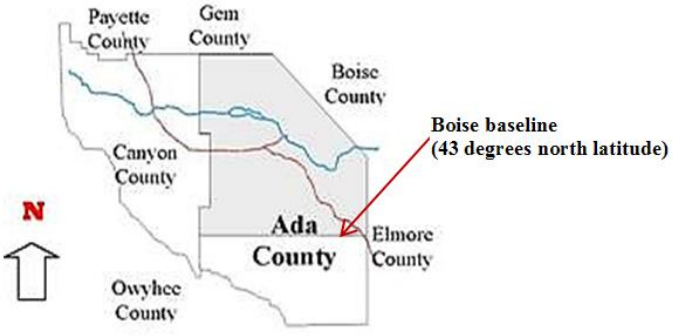

Figure 1. Northern Ada County PM_{10} Maintenance Area (indicated by gray shaded area).

South of the maintenance area, the land is largely unpopulated and is primarily managed by federal agencies such as the Bureau of Land Management and Department of Defense (the Idaho National Guard). To the east and north, the Boise front blocks movement of air and pollution between Ada County and neighboring Boise, Elmore, and Gem Counties. Canyon County is located on the western edge of the maintenance area. The legal description for the maintenance area can be found in Appendix B.

3 Requirements for Maintenance Plan Update

Clean Air Act §175A and related provisions establish the criteria that must be satisfied for a maintenance plan update:

- Attainment of the NAAQS for PM_{10}
- Full approval of the SIP under §110
- Demonstration that air quality improvement is due to permanent and enforceable emission reductions
- Full approval of the PM_{10} maintenance plan
- Fulfillment of all applicable §110 (maintenance plan) requirements

3.1 NAAQS Attainment Verification

A maintenance area must meet the applicable NAAQS. Attainment of the NAAQS for PM_{10} in northern Ada County is discussed in section 4, "Air Quality Monitoring—Verification of Attainment."

3.2 SIP Approval

EPA must have fully approved the applicable SIP for the area pursuant to §110(k) of the Clean Air Act. DEQ submitted a PM_{10} SIP in November 1991, with revisions in December 1994 and July 1995. EPA gave final approval to the northern Ada County SIP in May 1996. A PM_{10} maintenance plan and redesignation request was submitted to EPA in September 2002. EPA approved the plan in September 2003, restoring northern Ada County to attainment status for PM_{10}.

Section 110 requirements were addressed by the northern Ada County PM_{10} maintenance plan and requested redesignation to attainment status—adopted by DEQ on September 26, 2002, and approved by EPA effective September 2003—and subsequent infrastructure SIP submittals.

3.3 Permanent and Enforceable Improvements in Air Quality

Permanent and enforceable reductions in emissions and improved ambient PM_{10} concentrations in the northern Ada County area are discussed in section 7.

3.4 Full Approval of the PM_{10} Maintenance Plan

DEQ is submitting this plan to EPA for approval, as required.

3.5 Maintenance Plan Elements

Section 175A of the Clean Air Act requires DEQ to submit a revision to the original PM_{10} maintenance plan eight years after redesignation that demonstrates maintenance of the air quality standard for an additional 10-year period. This revision modifies the original PM_{10} maintenance plan and includes the following maintenance plan requirements:

- Section 4: Continued Air Monitoring and Verification of Attainment
- Section 5: Emissions Inventory
- Section 6: Maintenance Demonstration
- Section 7: Permanent and Enforceable Controls
- Section 8: Contingency Plan

4 Air Quality Monitoring—Verification of Attainment

4.1 PM_{10} Monitoring

PM_{10} ambient air monitoring in northern Ada County consists of one monitor located at the downtown Boise fire station (i.e., Fire Station #5 at 16th and Front Streets in downtown Boise). This site is operated by DEQ. The monitor is a tapered element oscillating microbalance (TEOM) monitor, which provides continuous, real-time direct measurement of PM_{10} concentrations. The TEOM monitor is part of the approved DEQ monitoring network and is operated in accordance with 40 CFR Part 58. DEQ will continue to operate an appropriate PM_{10} air quality monitor in accordance with 40 CFR Part 58 to verify continued attainment of the PM_{10} NAAQS. Annual review of the monitoring network will continue.

4.2 Quality Assurance Program

PM_{10} monitoring data for the Northern Ada County Maintenance Area have been collected and quality assured in accordance with 40 CFR Part 58, Appendix A; EPA's *Quality Assurance Handbook for Air Pollution Measurement Systems* (EPA 2008); DEQ's standard operating procedures; and DEQ's *Quality Assurance Project Plan for the State of Idaho Ambient Air Quality Monitoring Program* (DEQ 2009).

4.3 Continued Attainment of the PM_{10} Standard

The 24-hour PM_{10} NAAQS, which is 150µg/m^3 PM_{10} in ambient air (based on 24-hour averaging), is not to be exceeded more than once per year on average over 3 years.

Table 1 demonstrates that northern Ada County continues to attain the 24-hour NAAQS for PM_{10}.

4.4 Continued Air Monitoring and Verification of Attainment

Ambient PM_{10} concentrations continue to be below regulatory standards. With monitoring data used as the triggering mechanism, DEQ will continue to closely track PM_{10} concentrations and

verify continued attainment via the approved monitoring network operated in accordance with 40 CFR Part 58.

Table 1. Highest certified 24-hour average PM_{10} values measured at the Boise fire station.

Year	Highest 24-Hour Average PM_{10} Values ($\mu g/m^3$)
2000	95
2001	95
2002	150
2003	88
2004	70
2005	89
2006	97
2007	88
2008	92
2009	118
2010	95
2011	183

Note: Data for which exceptional event exclusion requests will be submitted is included.

These data include some extreme natural conditions causing concentrations above the PM_{10} standard. The higher levels on these days were caused by dust storms. Because of the small number of these extreme events, these higher values do not affect compliance with the NAAQS nor significantly affect the overall trend. The 183 $\mu g/m^3$ value (and a 156 $\mu g/m^3$ value the following day) in 2011 have been flagged by DEQ as extreme or exceptional events. DEQ is in the process of preparing the exceptional event exclusion concurrence requests to the EPA for these two days in 2011. Once granted, the removal of this monitoring data from consideration would result in a considerably lower design concentration (71 $\mu g/m^3$ for 2009-2011). Even with the inclusion of these two days, DEQ remains in compliance with the PM_{10} NAAQS. The modeling conducted for this plan was completed prior to the 2011 data becoming official. The data from 2011, if included, even with two days that exceeded the daily standard would result in an increase of the design concentration of 1 $\mu g/m^3$. Even if this data was included, maintenance would still be demonstrated. If the EPA concurs on these two exceptional events, as expected, the exclusion of that data would result in a 3-year design concentration of 71 $\mu g/m^3$, which is 19 $\mu g/m^3$ lower than the design concentration used in DEQ's rollback modeling. Thus, by including this data, an extremely conservative approach is being used by DEQ.

Table 2 shows the annual average PM10 concentrations for 2005-2011. While the annual standard has been revoked by EPA, the annual averages are shown for informational purposes and for consistency with previous plans. The data demonstrate that the PM10 annual average has been stable and that northern Ada County continues to be well below the revoked annual PM10 NAAQS of 50 µg/m3.

Table 2. Annual average PM_{10} concentrations measured at Boise Fire Station #5.

Year	Annual Average PM_{10} Concentrations ($\mu g/m^3$)
2005	22
2006	25
2007	25
2008	23
2009	22
2010	18
2011	20

Note: All exceptional event-flagged days are included in these averages.

Based on the effectiveness of the existing control measures, the instances of high PM_{10} days have changed from predominantly wintertime peaks to more dispersed elevated values at different times of year based on four distinct scenarios. Those four scenarios—winter stagnation, high winter, non-winter high carbon, and non-winter high crustal mass are discussed in detail in Appendix C, *Speciated Linear PM_{10} Roll-Forward Modeling Report.*

5 Emissions Inventory

Environ International Corporation (Environ) and ERG, under contract with DEQ, completed the *2008, 2015, and 2023 Emissions Inventories for the Treasure Valley Airshed* (ERG/Environ inventory). A modified ERG/Environ inventory is included as Appendix D. The ERG/Environ inventory was designed to support this 10-year maintenance plan update, the previously submitted carbon monoxide limited maintenance plan, and Treasure Valley airshed planning and management needs for the future; as such, it is a multi-pollutant inventory. Two sections of the original 2010 ERG/Environ inventory have been superseded to account for the most currently available information. Section 4 has been replaced to account for the adoption of the MOVES model for motor vehicle emissions. This is explained in more detail in the next paragraph. The second change was to replace the Treasure Valley Road Dust Study which was used by ERG/Environ in the 2010 EI for paved road dust. This study was replaced by the January 2011 AP-42 *Compilation of Air Pollutant Emission Factors* (EPA 2011b, section 13.2.1). Additional information explaining and supporting this change is provided in Appendix E, Section 3. For purposes of this plan, average winter season (PM season) means from November 1 through February 29 (2008 was a leap year), and summer season (ozone season) refers to April 1 through October 31. The month of March is not considered to be part of either the high PM season, or of the ozone season, and as such, is not used in seasonal analyses.

The ERG/Environ inventory used the Mobile6 model, the only EPA-approved model available at the time to calculate emissions due to on-road mobile sources. However, as this document was

being drafted, the Community Planning Association of Southwest Idaho (COMPASS), which is the designated Treasure Valley metropolitan planning organization, was expected to be required to begin using the newly released MOVES2010a (MOVES) model for transportation conformity determinations beginning in March 2012 (40 CFR 93.111(b)(1)). This date was later changed by EPA to 2013, well after the modeling had begun. DEQ, with input from COMPASS, has completed additional modeling that supplants portions of the ERG/Environ inventory. Input from COMPASS included projected growth rates, land use planning, vehicle miles traveled (VMT) estimates, road classification, and travel demand modeling outputs. Total carbon was speciated by DEQ using speciation profiles from the *Receptor Model Source Composition Library* (EPA 1984). The mobile emissions were re-modeled using the MOVES2010a model (MOVES), and DEQ re-estimated the road dust using the new AP-42 method (EPA 2011).

MOVES is known to result in significantly higher estimates for PM_{10} and nitrogen oxides (NO_x) emissions. For this reason, DEQ is using MOVES to develop the motor vehicle emissions budget (MVEB) and will ask for an adequacy determination to allow the MVEB in this plan be used to demonstrate conformity as soon as the adequacy determination is completed and the MVEB approved.

5.1 Base Year (2008) Annual and Episode Emissions Inventory

The ERG/Environ inventory includes Ada County in its entirety as opposed to just the Northern Ada County Maintenance Area. Using the entire county is a more conservative approach that meets the maintenance plan requirements while supporting the "airshed management" approach used by DEQ.

The inventory is divided into five categories of sources: point, area, on-road mobile, non-road mobile, and biogenic. These categories will be discussed in more detail below. Table 3 summarizes the 2008 annual PM_{10} emissions for the maintenance area; Table 4 summarizes the winter season average daily emissions; and Table 5 summarizes the non-winter season average daily emissions.

Table 3. Annual emissions by source category—2008.

Source Type	NO_x	SO_2	VOC	PM_{10}	$PM_{2.5}$	TC
	(tons per year)					
Point	356	66	268	169	143	77
Area	921	27	12,963	19,555	3,552	6,522
On-road	9,775	67	4,182	413	330	384
Non-road	2,895	90	2,031	258	245	227
Biogenic	202	0	12,802	0	0	0
Total	14,149	250	32,247	20,395	4,270	7,210

Note: nitrogen oxides (NO_x); sulfur dioxide (SO_2); volatile organic compounds (VOC); an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM_{10}); particulate matter with a diameter 2.5 micrometers or less ($PM_{2.5}$); total carbon (TC)
Note: Source type categories may not sum exactly to the total emissions listed due to rounding.

Table 4. Emission for winter seasons—2008.

Source Type	NO_x	SO_2	VOC	PM_{10}	$PM_{2.5}$	TC
	(tons per day)					
Point	1.0	0.2	0.7	0.5	0.4	0.2
Area	4.4	0.1	39.1	67.6	15.1	19.9
On-road	24.0	0.2	12.3	1.2	1.0	1.1
Non-road	5.6	0.2	4.4	0.4	0.4	0.7
Biogenic	0.3	0.0	5.8	0.0	0.0	0.0
Total	35.2	0.7	62.3	69.7	16.9	21.9

Note: nitrogen oxides (NO_x); sulfur dioxide (SO_2); volatile organic compounds (VOC); an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM_{10}); particulate matter with a diameter 2.5 micrometers or less ($PM_{2.5}$); total carbon (TC)
Note: Source type categories may not sum exactly to the total emissions listed due to rounding.

Table 5. Emission for non-winter seasons—2008.

Source Type	NO_x	SO_2	VOC	PM_{10}	$PM_{2.5}$	TC
	(tons per day)					
Point	1.0	0.2	0.7	0.5	0.4	0.2
Area	1.4	0.0	33.7	43.5	6.6	12.3
On-road	28.5	0.2	10.9	1.1	0.9	1.0
Non-road	10.1	0.3	7.2	0.9	0.9	0.8
Biogenic	0.7	0.0	55.6	0.0	0.0	0.0
Total	41.7	0.7	108.1	46.1	8.7	14.3

Note: nitrogen oxides (NO_x); sulfur dioxide (SO_2); volatile organic compounds (VOC); an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM_{10}); particulate matter with a diameter 2.5 micrometers or less ($PM_{2.5}$); total carbon (TC)
Note: Source type categories may not sum exactly to the total emissions listed due to rounding.

Total annual PM_{10} emissions are predominantly due to area sources, which account for 19,555 tons per year (96%) of the total annual PM_{10} emissions (Table 3; Figure 2).

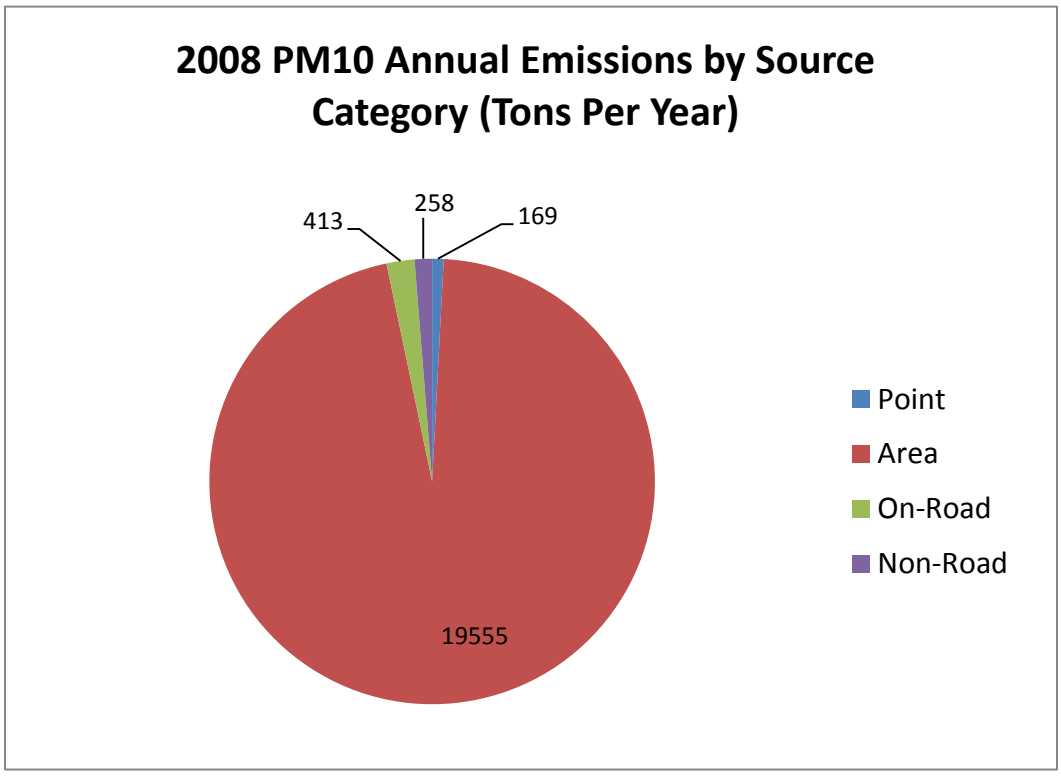

Figure 2. PM_{10} annual emissions in the four source categories (to the nearest ton).

Four source categories are summarized below, including changes due to use of the MOVES model. Biogenic emissions are not discussed.

5.1.1 Area Sources

In the *Handbook for Criteria Pollutant Inventory Development: A Beginner's Guide for Point and Area Sources*, the EPA describes area sources as "facilities or activities whose individual emissions do not qualify them as point sources. Area sources represent numerous facilities or activities that individually release small amounts of a given pollutant, but collectively they can release significant amounts of a pollutant" (EPA 1999). For the purposes of this emissions inventory, area sources are defined as those sources emitting annual emissions less than the point source thresholds (see section 5.1.4).

Specific categories of area sources include, but are not limited to, residential wood burning, agricultural and open burning, industrial fuel combustion, paved and unpaved road dust, commercial cooking, auto body refinishing, and construction. Residential wood burning was found to be the primary contributor to the original violations of the PM10 NAAQS, accounting for 22 wintertime tons per day (tpd). The 2008 EI, attributes 13.4 tpd to residential wood smoke, a reduction of 39% even with the county population almost doubling. This indicates that the residential wood burning program has been very successful at reducing PM_{10} emissions.

For base year 2008, the largest contributor of PM_{10} emissions is paved road dust, which accounts for 36.8% of the annual PM_{10} emissions and 49.9% of the winter daily emissions (Table 6).

Table 6. Ada County paved road dust emissions.

	Paved Road Dust Emission (% of Total PM_{10})			Total PM_{10} Emission		
Year	**2008**	**2015**	**2023**	**2008**	**2015**	**2023**
Annual (tons/year)	7,501 (36.8%)	9,164 (42.1%)	13,243 (51.2%)	20,395	21,756	25875
Non-winter daily (tons/day)	10 (22.5%)	12 (26.1%)	18 (33.7%)	46	48	53
Winter daily (tons/day)	35 (49.9%)	43 (56.3%)	62 (64.8%)	70	77	96

The 2008 PM10 contribution from road dust for Ada County was 7,501 tons per year (tpy). Unpaved road dust accounted for 966 tpy. In total, road dust in Ada County contributed 8,467 tpy, or 41.5% of the total PM10 emissions in 2008. (Figure 3).

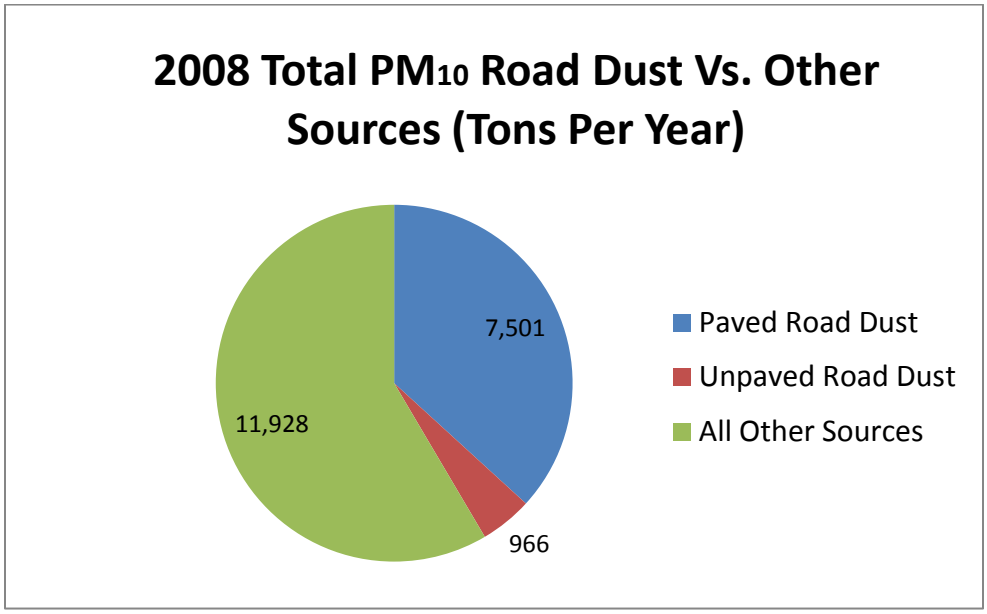

Figure 3. PM_{10} road dust compared to all other sources.

5.1.2 On-Road Mobile Sources

On-road mobile source emissions were calculated using the MOVES model, which is expected to result in significantly higher PM_{10} and NO_x emissions than the previous Mobile6 model. The MOVES model calculated annual PM_{10} on-road direct mobile emissions of 413 tons per year with 1.2 tons per day during the winter season. In addition, secondary aerosol precursor emissions estimated by the MOVES model included 9,775 tons per year NO_x, 67 tons per year sulfur dioxide (SO_2), and 4,182 tons per year volatile organic compounds (VOCs).

5.1.3 Non-Road Mobile Sources

Non-road mobile sources include a wide variety of equipment that either move under their own power or are capable of being moved from site to site. Non-road mobile equipment sources not licensed or certified as highway vehicles are defined as those that move or are moved within a 12-month period and are covered under EPA's emissions regulations as non-road mobile sources. The three types of non-road mobile sources are non-road equipment, such as construction and recreational off-road vehicles; locomotives; and aircraft. Non-road mobile sources accounted for 258 tons per year $PM_{10,}$ 2,895 tons per year NO_x, 90 tons per year SO_2, and 4,182 tons per year VOC in the 2008 ERG/Environ inventory.

5.1.4 Point Sources

To capture all pollutants and all facilities located within the maintenance area for the ERG/Environ inventory, facilities were divided into point or area sources based on the emission levels of all criteria pollutants. If a facility exceeded a defined point for any pollutant, it was included as a point source. The ERG/Environ inventory defines point sources as any facility emitting greater than any of the following thresholds:

- 5 tons per year of PM_{10}, $PM_{2.5}$, SO_2, or ammonia (NH_3)
- 10 tons per year of VOCs
- 25 tons per year of NO_x or CO

Facilities were included in the point source category for PM_{10} if they exceeded the limit for any pollutant. Sources with annual emissions below these levels for all criteria pollutants were included in the area source inventory. The universe of permitted point sources in northern Ada County is larger than the point sources included in the ERG/Environ inventory.

The total 2008 annual point source emissions inventory results were 169 tons per year of PM_{10} emissions with 0.45 tons per day emitted in the PM season and 0.46 tons per day emitted in Ada County in the ozone season. Point sources also contribute 356 tons per year NO_x, 66 tons per year SO_2, and 268 tons per year VOC.

Previous modeling indicated that emissions from the TASCO facility in Canyon County, outside of the maintenance area were "shown to potentially contribute to PM_{10} exceedances in Canyon County", however neither the photochemical model nor the CMB modeling indicated any significant impact in Ada County. Nevertheless TASCO's permit-allowable emission levels were addressed in the Tier II operating permit issued as part of the control measures in the 2002 SIP "to insure that TASCO impacts in Ada County are at acceptable levels." Pertinent permit requirements are included in Idaho's SIP at 40 CFR 52.670.

In view of the 2002 concerns about potential Canyon County PM_{10} exceedances due to TASCO, it should be noted that TASCO's 2008 PM10 emissions (219 $\mu g/m^3$) represent a 35% reduction over the 1999 base year emission in the 2002 SIP. In addition, the Nampa, Idaho average 2nd high PM10 value for 2009-2011is 85 $\mu g/m^3$ at the Nampa Fire Station, approximately 2 miles from TASCO. Therefore, TASCO emissions, as limited by the Tier II operating permit, appear to have effectively eliminated the threat to the PM10 NAAQS in Canyon County.

5.2 Projected Inventories

The methodologies used in the future year (2015 and 2023) emissions projections are discussed in section 7 of the ERG/Environ inventory (Appendix D). Future year projections for on-road MOVES emissions modeling and paved road dust emissions are included in Appendix E, *Development of the Base- and Future-Year Mobile Source Emission Inventories for the Treasure Valley, Idaho.*

Total PM_{10} emissions in Ada County are projected to increase through 2023. Most of the increase in emissions can be attributed to an increase in paved road dust, which increases in proportion to the increase in VMT. Despite this expected increase, modeling shows that the PM_{10} standard will be protected. As such, the modeled concentrations are expected to be high (i.e., conservative) compared to actual expected concentrations, for reasons summarized in Section6.3, second paragraph.

NO_x and VOCs from on-road sources, important in secondary aerosol formation, are expected to continue decreasing over the life of the maintenance plan as more efficient vehicles continue to replace older, higher emitting vehicles. Table 7 and Table 8 show the annual emissions by source category for 2015 and 2023, respectively.

Table 7. Annual emissions by source category—2015.

Source Type	NO_x	SO_2	VOC	PM_{10}	$PM_{2.5}$	TC
	(tons per year)					
Point	355.6	65.7	268.1	169.1	142.6	68.5
Area	900.0	23.6	14,551.2	21,107.4	3,651.0	7,806.1
On-road	5,856.6	33.4	2,939.7	283.0	193.0	246.0
Non-road	1,979.8	28.2	1,480.7	196.9	185.8	172.7
Biogenic	202.3	0.0	12,802.5	0.0	0.0	0.0
Total	9,294.3	150.9	32,042.2	21,756.4	4,172.4	8,293.3

Note: nitrogen oxides (NO_x); sulfur dioxide (SO_2); volatile organic compounds (VOC); an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM_{10}); particulate matter with a diameter 2.5 micrometers or less ($PM_{2.5}$); total carbon (TC)
Note: Source type categories may not sum exactly to the total emissions listed due to rounding.

Table 8. Annual emissions by source category—2023.

Source Type	NO_x	SO_2	VOC	PM_{10}	$PM_{2.5}$	TC
	(tons per year)					
Point	391.2	72.3	294.9	186.0	156.8	75.3
Area	951.9	23.8	18,062.8	25,267.1	4,072.7	9,775.5
On-road	4,306.4	42.0	2,396.8	285.2	157.1	228.6
Non-road	1,355.0	33.8	1,407.9	135.8	125.9	119.9
Biogenic	202.3	0.0	12,802.5	0.0	0.0	0.0
Total	7,206.7	171.9	34,964.8	25,874.1	4,512.5	10,199.2

Note: nitrogen oxides (NO_x); sulfur dioxide (SO_2); volatile organic compounds (VOC); an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM_{10}); particulate matter with a diameter 2.5 micrometers or less ($PM_{2.5}$); total carbon (TC)
Note: Source type categories may not sum exactly to the total emissions listed due to rounding.

5.3 Motor Vehicle Emissions Budget

Clean Air Act §176 requires any activity that is federally supported or permitted to conform with approved air quality SIPs. To help guide the transportation process, Clean Air Act §108(e) compelled the EPA administrator and secretary of transportation to develop a "continuous transportation-air quality planning" process and guidance on developing and implementing transportation and other measures necessary to demonstrate and maintain attainment of NAAQS. This effort led to the "conformity" rules found at 40 CFR 93.100–93.129.

The intent of the conformity rules is to synchronize the air quality planning process with transportation plans developed by metropolitan planning organizations (MPOs) and other transportation organizations to ensure air quality standards are met. Simply put, transportation plans must "conform" to air quality plans and show that transportation projects using federal funds or deemed to be "regionally significant" in air quality nonattainment and maintenance areas do not contribute to a degradation of air quality.

COMPASS serves as the MPO for Ada County. COMPASS develops a regional long-range transportation plan (*Communities in Motion*) that identifies needed transportation projects that can be funded within the life of the plan (20 years and beyond). Only funded projects can be evaluated for air quality conformity.

Near-term transportation projects are included in the transportation improvement program (TIP). The TIP is a short-range (3–5 year) budget of transportation projects that lists all projects for which federal funds are anticipated, along with non-federally funded projects that are regionally significant. Projects in the TIP must be consistent with the regional long-range transportation plan.

To reconcile long-range transportation plans and TIPs with air quality implementation plans, the conformity rules at 40 CFR 93.118 require these plans be consistent with the MVEB, which is part of the air quality SIP. This PM_{10} maintenance plan covers the time period of 2013 through 2023. Since the regional long-range transportation plan has at least a 20-year horizon and updated plans will be developed in 2014, 2018, and 2022, the MVEB needs to cover transportation projects through the 2040s. For this plan, DEQ has chosen to establish MVEBs for the base year of 2008, an intermediary year of 2015, and an ending year of 2023, which will be applied to transportation plans with horizon years extending to 2050.

5.3.1 MVEB for PM_{10}

The PM_{10} MVEB covers fugitive dust from paved and unpaved roads and direct PM_{10} vehicle emissions (due to exhaust, tire wear, and break wear). Construction emissions from transportation projects were determined not to be significant and are not included in the MVEB for conformity purposes. EPA's MOVES model was used to develop vehicle emissions estimates for the MVEB. The road dust and vehicle emissions were estimated for the time periods 2008–2015 and 2015–2023. To ensure the 2023 MVEB is sufficient to cover the horizon year of future transportation plans, the motor vehicle emissions in the last period (2023–2050) are forecasted 2050 emissions based only on VMT increases from 2015 to 2050. PM_{10} emissions for the MVEB years 2015 and 2023 were increased by a 10% safety margin as allowed by the conformity rule at 40 CFR 93.124(a). Since PM_{10} emissions are primarily influenced by VMT and the VMT is trending upward, the emissions are also projected to increase over time. Therefore, the largest

emissions for PM_{10} are in the last year of each of the time periods listed above. The conformity rule states that "emissions in years for which no motor vehicle emissions budget are specifically established must be equal to the motor vehicle emission budget(s) established for the most recent prior year" (40 CFR 93.118(b)(1)(ii)). Table 9 highlights the PM_{10} MVEB for each planning period.

Table 9. PM_{10} motor vehicle emissions budget.

Time Period	PM_{10} MVEB (tons per day)
2008	31.0
2015	42.9
2023	60.1

Note: The PM_{10} emissions were taken from the "*Development of the Base- and Future-Year Mobile Source Emission Inventories for the Treasure Valley, Idaho*" (Appendix E). They include the annual tail pipe emissions (Table 10), annual paved road dust emissions (Table 13), and the unpaved road dust emissions (Table 16) in Appendix E. The annual emissions were divided by 365 days to calculate tons per day and for the 2008–2015 and 2015–2023 periods, increased by a 10% safety margin.

5.3.2 MVEB for NO_x and VOC

The conformity rule requires an MVEB for VOCs and NO_x as precursors to PM_{10} when they are significant contributors (40 CFR 93.109(b)(2)(iii)). Sulfur dioxide (SO_2) is an insignificant contributor to the secondary aerosol formation and is not included. Although NH_3 contributes to secondary aerosol formation, the region is "ammonia rich," so the very small mobile source NH_3 emissions are also not considered in MVEBs. Accordingly, DEQ is establishing NO_x and VOC emissions budgets for the base year 2008 as well as 2015 and 2023. The forecasted NO_x and VOC emissions are expected to decline over time even though the MVEB increases (see Table 10 footnote). Similar to the PM_{10} MVEB, a safety margin of 10% was added to the 2008–2015 and 2015–2023 planning periods (Table 10).

Table 10. NO_x and VOC motor vehicle emissions budget.

Time Period	NO_x MVEB	VOC MVEB
2008	29.5	12.6
2015	29.5	12.6
2023	34.2	17.2

Note: From Table 23 in the *"Speciated Linear PM_{10} Roll-Forward Modeling Report"* (Appendix C). As discussed in that report, the model does not treat nonlinear chemical processes, so NO_x and VOC were held constant for modeling purposes even though they are generally declining over time. However, since the out year of 2050 was calculated by multiplying the projected 2050 vehicle miles traveled by the projected 2015 vehicle fleet emission rates, this causes an increase in NO_x and VOC because the fleet emission rates are held constant and emissions reductions expected from a newer fleet are not included. The emissions from this conservative approach were included in the PM_{10} roll-forward modeling run to demonstrate adequacy of the MVEB.

5.3.3 MVEB Conclusion

Before the MVEB can be used for conformity purposes it must demonstrate "adequacy." For EPA to determine the MVEB is adequate, the conformity rule requires that MVEB emissions must be considered with all other emissions sources and be consistent with the applicable maintenance plan (40 CFR 93.118(e)(4)(iv)). Modeling must demonstrate that all emissions

sources combined (point sources, area sources, and mobile sources) will not cause or contribute to a violation of the PM_{10} NAAQS. As required by the conformity rule, the MVEBs were included with all other emissions in modeling, which demonstrated that future concentrations were below the PM_{10} NAAQS. For a complete discussion on the modeling demonstration, see Appendix C, *Speciated Linear PM_{10} Roll-Forward Modeling Report*.

6 Maintenance Demonstration

DEQ has completed the *Speciated Linear PM_{10} Roll-Forward Modeling Report*, which is included as Appendix C.

6.1 Air Quality Modeling Approach

Linear roll-forward modeling is a relatively simple technique for evaluating the effect of emission reductions on ambient concentrations of air pollutants. The model assumes that ambient concentrations above some regional background level are proportional to the estimated emissions of the local sources. By reducing the size of one or more of the local sources, the resulting reduction in ambient concentrations can be estimated. Since PM_{10} is composed of several different components (i.e., geologic material, carbon mass, ammonium nitrate, and ammonium sulfate), roll-forward calculations must be performed on each of these species individually to more accurately evaluate different emissions reductions or control options.

Although the roll-forward model does not analyze the chemical reactions and dispersion of the pollutants and it provides neither spatial nor temporal information for pollutant concentrations, it does provide a low-cost and relatively reliable approach to estimate the pollutant levels for worst-case meteorology, annual average, and seasonal average conditions. The roll-forward model can be used to safely estimate whether the PM_{10} concentrations can be maintained below the NAAQS in future years.

Since the 3-year average 24-hour PM_{10} values have been significantly lower than the PM_{10} NAAQS (150 $\mu g/m^3$) over the last two decades in northern Ada County, DEQ has determined, and EPA has agreed, that the roll-forward model is an appropriate method to demonstrate compliance in future years.

Four speciation profiles and an annual profile were created for the following scenarios: wintertime "stagnation" (severe stagnation events, wet conditions); wintertime "high-winter" (drier winter stagnation conditions); high carbon mass events; high crustal mass events in nonwinter seasons; and annual average.

The data required to conduct roll-forward modeling included monitored PM_{10} data, base-year and projected future-years emissions data, and background PM_{10} data. All data were speciated for major PM_{10} components: geological mass (crustal mass), carbon mass, sulfate mass (ammonium sulfate), and nitrate mass (ammonium nitrate). Additionally, the emissions inventory included the precursor emissions (NO_x, SO_2, and NH_3) for the secondary aerosols.

Data from 2007–2009 were used for the demonstration, as they were the most complete data set (including ambient concentrations, background, and speciation) available at the time of this

analysis. Some additional data that have since become available are also discussed. The newer data do not change the conclusions reached in the completed analysis.

6.2 Attainment Demonstration

The model has demonstrated that the PM_{10} levels in northern Ada County will remain well under the NAAQS in future years, despite the increase of predicted county-level road dust emission rates. Tables 11–15 and Figures 4–8 show the relative importance of the major species at present and in future years. Three species—crustal mass, total carbon mass, and nitrate mass—will continue to play important roles in future years. In all scenario types and all time periods, the contribution of sulfate remains low. The sulfate contribution is decreasing even though the total amount remains the same since total PM_{10} is increasing. The annual average scenario and other four scenarios are described below.

6.2.1 Annual Average

In the case of annual average PM_{10} concentrations, Table 11 and Figure 4 show that crustal mass, which is mainly due to road dust, is primarily responsible for the increase in total PM_{10} concentrations, while the other species remain virtually unchanged.

Table 11. Predicted annual average PM_{10} levels.

Year	Sulfate Mass	Nitrate Mass	Total Carbon	Crustal Mass	Unknown	PM_{10} Total[a]
	($\mu g/m^3$)					
2008	1.1	1.2	3.8	16.9	0.4	23.3
2015	1.1	1.2	4.2	17.9	0.4	24.7
2023	1.1	1.2	5.0	20.2	0.4	27.9

[a] For comparison to the now-revoked NAAQS annual PM_{10} standard of 50 $\mu g/m^3$.

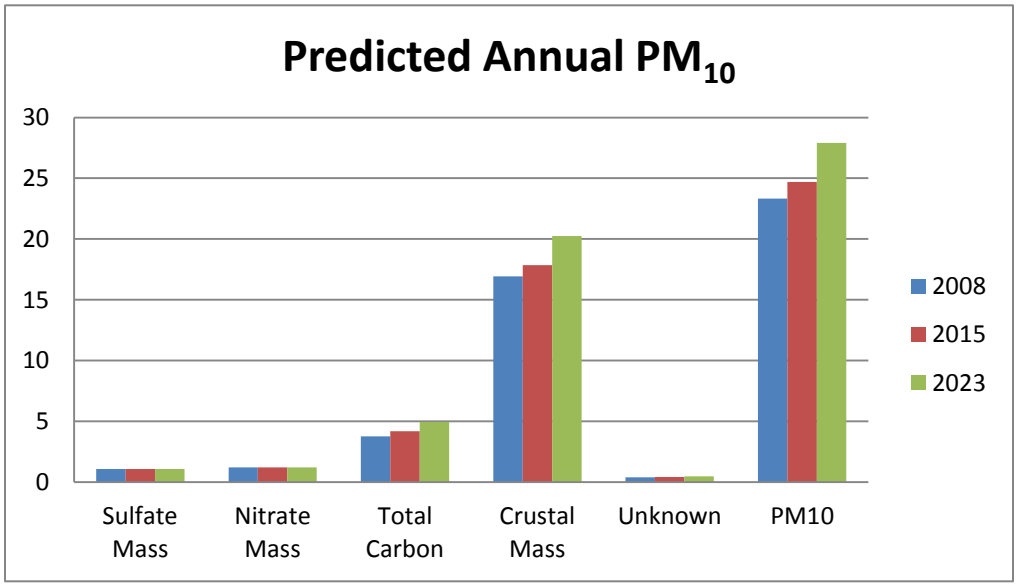

Figure 4. Predicted annual average PM_{10} concentration (in micrograms per cubic meter).

6.2.2 Nonwinter High Crustal Mass Scenario

In the nonwinter high crustal mass scenario, road dust (i.e., crustal mass) is the primary contributor (Table 12; Figure 5). Similar to the annual average scenario, crustal mass increases with time while the other contributors change very little.

Table 12. Predicted 24-hour average PM_{10} levels for high crustal mass scenario in nonwinter seasons.

Year	Sulfate Mass	Nitrate Mass	Total Carbon	Crustal Mass	Unknown	PM_{10} Total[a]
	($\mu g/m^3$)					
2008	3.2	0.0	8.6	77.2	1.0	90.0
2015	3.2	0.0	9.7	80.1	1.1	94.1
2023	3.2	0.0	11.7	89.1	1.2	105.1

[a] For comparison to the NAAQS 24-hour PM_{10} standard of 150 $\mu g/m^3$.

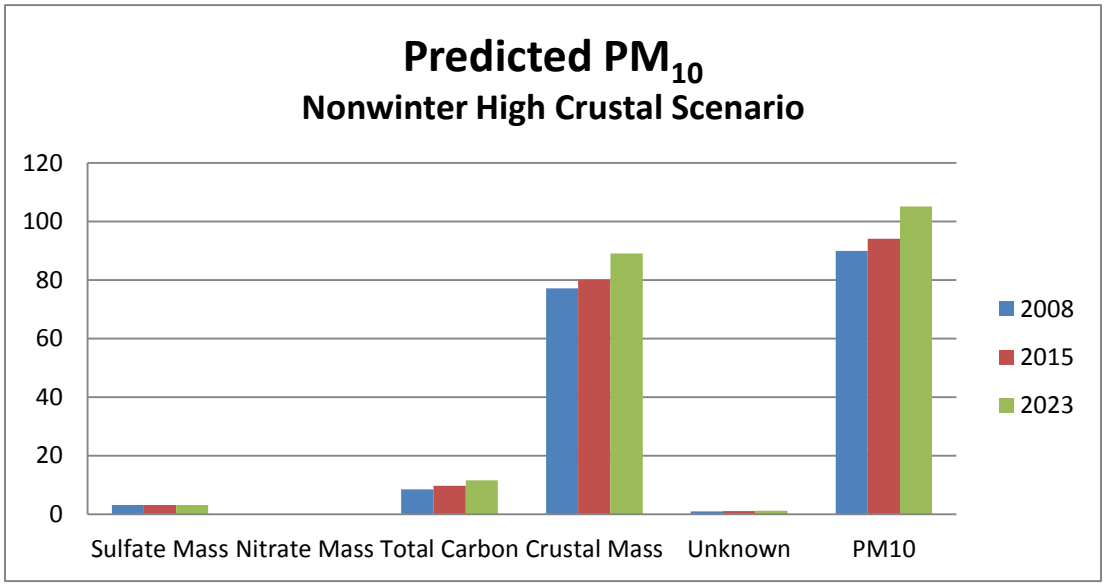

Figure 5. Predicted 24-hour average PM_{10} levels (in micrograms per cubic meter) for high crustal mass scenario in nonwinter seasons.

6.2.3 Nonwinter High Carbon Scenario

In this scenario, crustal mass (i.e., road dust) is still the predominant contributor, but high levels of carbon mass indicate the presence of wildfires in the area. High carbon scenario days have lower PM_{10} concentrations than $PM_{2.5}$, also indicating the presence of fires. Table 13 and Figure 6 show both carbon and crustal mass make significant contributions to PM_{10}.

Table 13. Predicted 24-hour average PM_{10} levels for high carbon scenario in nonwinter seasons.

Year	Sulfate Mass	Nitrate Mass	Total Carbon	Crustal Mass	Unknown	PM_{10} Total[a]
	($\mu g/m^3$)					
2008	2.8	1.5	29.7	54.8	1.2	90.0
2015	2.8	1.5	34.1	56.8	1.3	96.5
2023	2.8	1.5	41.5	62.8	1.5	110.1

[a] For comparison to the NAAQS 24-hour PM_{10} standard of 150 $\mu g/m^3$.

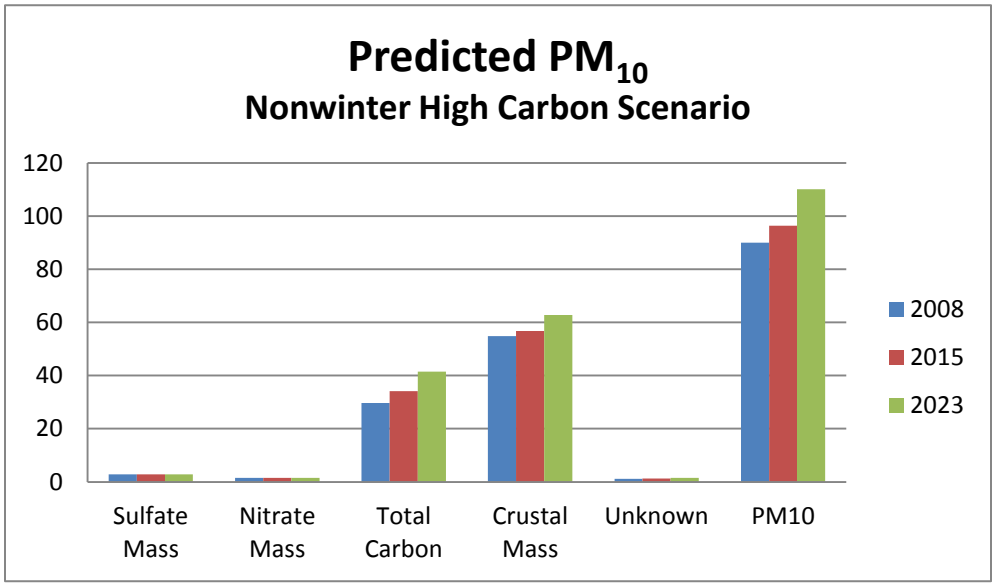

Figure 6. Predicted 24-hour average PM_{10} levels (in micrograms per cubic meters) for high carbon scenario in nonwinter seasons.

6.2.4 High Winter Scenario

The high winter scenario, while also stagnant, differs from the stagnant winter scenario due to relatively warmer and drier conditions. Table 14 and Figure 7 show that carbon mass plays the most important role, followed by crustal mass; the importance of nitrate decreases with time as a result of tightening federal motor vehicle standards.

Table 14. Predicted 24-hour average PM_{10} levels for high winter scenario.

Year	Sulfate Mass	Nitrate Mass	Total Carbon	Crustal Mass	Unknown	PM_{10} Total[a]
	($\mu g/m^3$)					
2008	4.8	20.5	34.5	28.3	1.9	90.0
2015	4.8	20.5	37.8	32.4	2.0	97.6
2023	4.8	20.5	45.9	42.0	2.4	115.7

[a] For comparison to the NAAQS 24-hour PM_{10} standard of 150 $\mu g/m^3$.

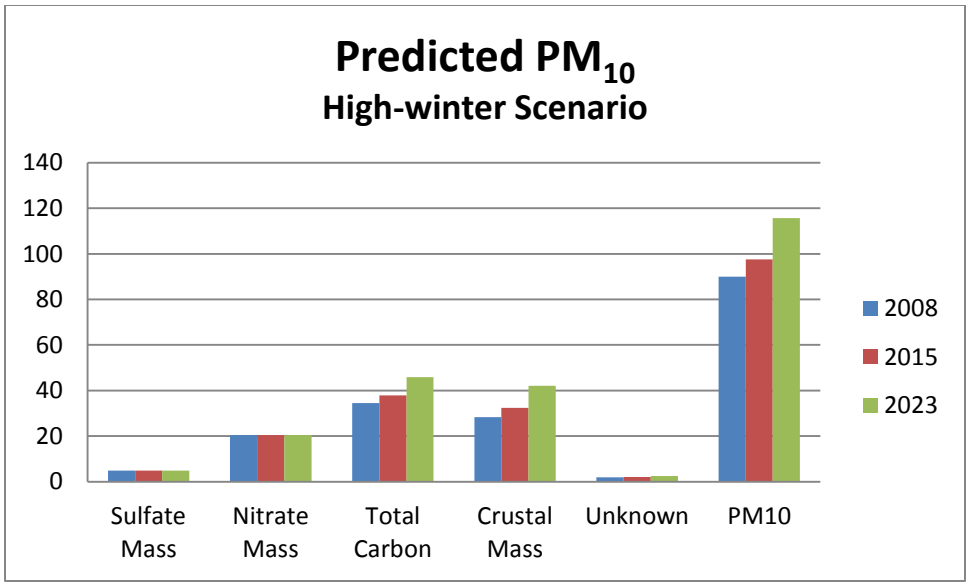

Figure 7. Predicted 24-hour average PM_{10} levels (in micrograms per cubic meters) for high winter scenario.

6.2.5 Stagnant Winter Scenario

A stagnant event is a high PM scenario with a severely stagnant atmosphere and very cold, wet conditions, such as snow cover on the ground. These episodes usually last for a week or longer. Table 15 and Figure 8 show nitrate, carbon, and crustal mass having approximately similar contributions near term, but with declining nitrate and increasing crustal mass contributions in future years.

Table 15. Predicted 24-hour average PM_{10} levels for stagnation scenario in winter season.

Year	Sulfate Mass	Nitrate Mass	Total Carbon	Crustal Mass	Unknown	PM_{10} Total[a]
	($\mu g/m^3$)					
2008	7.1	37.7	19.4	24.5	1.2	90.0
2015	7.1	37.7	21.3	27.8	1.3	95.2
2023	7.1	37.7	25.8	35.6	1.5	107.7

[a] For comparison to the NAAQS 24-hour PM_{10} standard of 150 $\mu g/m^3$.

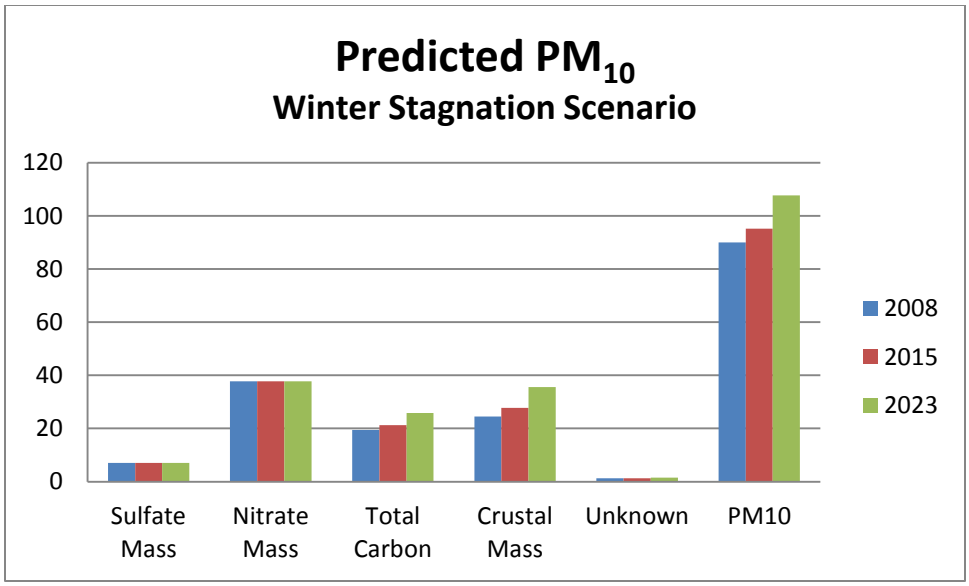

Figure 8. Predicted 24-hour average PM_{10} levels (in micrograms per cubic meter) for stagnation scenario in winter season.

6.3 Modeling Summary

The roll-forward modeling has demonstrated that northern Ada County will meet the PM_{10} 24-hour NAAQS in future years up to 2023 with at least a 23% margin of safety. The model results for mobile source emissions conformity also show that the ambient PM_{10} concentrations will be below the NAAQS up to year 2023. Presently, nitrate mass contributes much less to the total ambient PM_{10} compared to the early 1990s. Based on the future year inventories, particularly NOx reductions due to federal vehicle emission standards, this trend in declining nitrate aerosol will likely continue into the future or at least remain level. Carbon mass will remain an important contributor in future years. Sulfate mass makes minimal contributions currently and even less in the future.

Crustal mass will be the important contributor to ambient PM_{10} in all occasions. The relative importance of crustal mass will increase over time due to an increase in vehicle miles travelled. The relative importance of nitrate mass is likely to drop with decreases in vehicle NOx emissions, or at least remain level. Nitrate mass was conservatively assumed to remain constant, rather than decrease as expected due to lower new car NO_x emissions in the future. This conservative nitrate emissions treatment is intended to allow for potential uncertainty in the nitrate formation process (see Appendix C, Section 6.5).

In addition, the model results are conservative since the design value was determined based on the relatively high monitored values on days that were often influenced by windblown dust or wildfire smoke. It is also important to note that projected future VMT increases with associated crustal mass increase will be spread throughout the valley rather than concentrated at the downtown Boise area where exceedances have occurred in the past. As a result, future concentrations are not expected to increase with the same rate of VMT growth as assumed in this simplified roll-forward model based on the downtown monitor. This conclusion is reinforced by the steady decline in PM_{10} levels witnessed over the past decade.

7 Permanent and Enforceable Improvement in Air Quality

The Clean Air Act requires each maintenance plan to demonstrate that measures credited with bringing an area into attainment are federally enforceable and will continue into the future. The residential wood burning and open burning ban program meet this requirement as they are enacted and currently being implemented at the respective government levels throughout northern Ada County. These programs were approved by EPA as meeting the RACM/RACT (reasonably available control measures/reasonably available control technology) requirements (see 59 FR 48583) and were found to meet the enforceability requirements of the Clean Air Act. The maintenance demonstration in section 6 provides documentation that the area will maintain PM_{10} attainment for the foreseeable future as a result of implementing these measures. Therefore, the northern Ada County plan meets the Clean Air Act requirement for permanent and enforceable control measures.

7.1 Control Measures

The following control measures resulted in the area's continued attainment of the PM_{10} NAAQS. Continued implementation of these measures should ensure future maintenance of the PM_{10} NAAQS through the year 2023, which is the duration of the maintenance period.

7.1.1 Air Quality Index Program

DEQ operates an Air Quality Index (AQI) Program to support the public information and regulatory components of the PM_{10} SIP. Through this program, DEQ provides information on the measured and predicted ambient air pollution levels for the highest measured and highest predicted criteria pollutant. Information on voluntary or mandatory open burning bans and indoor wood burning bans is provided via several formats. AQI information and information on burn conditions is posted daily on DEQ's website, is made available via recorded message 24-hours per day, and is e-mailed to people who wish to be on a daily or an "alert" list. The alert list is only sent on days when the AQI is forecast to be at a level where local no-burn ordinances go into effect.

7.1.2 Residential Wood Burning Program

Key elements in the current residential wood-burning program include issuing a voluntary burn ban when PM_{10} is at, or is expected to reach approximately 64 $\mu g/m^3$ and a mandatory burn ban when levels reach approximately 100 $\mu g/m^3$of PM_{10}. Each city in Ada County and unincorporated Ada County has an existing ordinance prohibiting the use of woodstoves or fireplaces when an air quality alert is issued, as noted above.

A woodstove change-out program is in place, and the cities and counties have ordinances that prohibit installation of non-EPA-certified woodstoves. Additionally, Idaho provides tax incentives for replacing older, more polluting woodstoves for cleaner-burning EPA-certified woodstoves.

7.1.3 Open Burning Ban Program

The open burn ban program includes voluntary bans when PM_{10} reaches approximately 64 $\mu g/m^3$ and mandatory bans when the forecast AQI is 60 or greater for any pollutant (i.e., approximately 74 $\mu g/m^3$ for PM_{10}).

Additional mandatory burn bans can be implemented by DEQ beginning at the Stage 1 -- Air Pollution Forecast and Caution level. The stage one level is the 24-hour NAAQS of 150 $\mu g/m^3$ as set in the "Rules for the Control of Air Pollution in Idaho" (IDAPA 58.01.01.550).

7.1.4 Stationary Source Control Measure

In 2002, stationary sources made up a relatively small fraction of the total annual PM_{10} emissions inventory at 3.2%. However, the modeling conducted for the 2002 analysis for future year compliance indicated that a subset of existing stationary sources had the potential to interfere with maintenance of the NAAQS. Therefore, the 2002 maintenance plan addressed 13 facilities located within the maintenance area that had the potential to interfere with maintenance of the NAAQS based on their potential or allowable emissions (Environ 2002). DEQ used the authority provided in IDAPA 58.01.01.401.03 to require that Tier II permits be issued to these facilities. These permits established federally enforceable permit conditions that limited the ambient impacts due to facility emissions to acceptable levels. Although actual emissions from these facilities did not cause or contribute to a violation of the NAAQS, limits on the potential to emit were necessary to demonstrate ongoing maintenance of the NAAQS. Currently, 8 of these facilities continue to operate in the maintenance area.

In addition to the facilities discussed above, permit conditions for the TASCO facility in Nampa, Idaho, which is outside of the maintenance area but within the modeling domain, were included in the 2002 maintenance plan. A Tier II operating permit was issued to TASCO that required reductions in actual, as opposed to potential, PM_{10} emissions. TASCO emissions are 39% lower in the 2008 EI than they were in the 1999 inventory.

Based on the emissions inventory used for this plan, point sources within the maintenance area, accounted for 0.8% of the 2008, 0.8% of the 2015, and 0.7% of the 2023 annual PM_{10} emissions.

The previously approved stationary source control measures included in the 2002 maintenance plan submittal and codified in 40 C.F.R. § 52.670 will remain in effect. In addition, Idaho's permit program will continue to be the control measure for new and modified sources as well as any sources determined to pose a threat to continued maintenance of the PM_{10} NAAQS.

8 Contingency Plan

Based on the emissions inventory used for this plan, point sources within the maintenance area, accounted for 0.8% of the 2008, 0.8% of the 2015, and 0.7% of the 2023 annual PM_{10} emissions. The previously approved stationary source control measures included in the 2002 maintenance plan submittal and codified in 40 C.F.R. § 52.670 will remain in effect. In addition, Idaho's permit program will continue to be the control measure for and new and modified sources as well as any sources determined to pose a threat to continued maintenance of the PM10 NAAQS.

Section 175A of the Clean Air Act requires that a maintenance plan include contingency provisions as necessary to promptly correct any violation of the NAAQS that may occur after redesignation to attainment. Areas in attainment are not required to have enacted contingency measures, just a list of measures that could be considered for future implementation.

The contingency plan must ensure that the contingency measures are adopted expeditiously once the need is triggered. The elements required of a contingency plan are the tracking plan and triggering mechanism to determine if and when contingency measures are needed, the list of potential contingency measures, and a description of the process for recommending and implementing the contingency measures.

8.1 Tracking

The tracking plan for the Northern Ada County Maintenance Area will consist of monitoring and analyzing the PM_{10} concentrations. DEQ will continue to operate and maintain the PM_{10} monitor in accordance with 40 CFR Part 58.

8.2 Triggering

The triggering mechanism for contingency measure implementation will be a violation of the PM_{10} NAAQS. Specifically, the 3-year average number of expected exceedances at a monitoring site would need to be greater than 1.0 for a violation to occur.

Contingency plan triggering does not necessarily mandate a SIP revision, nor is the area necessarily redesignated to nonattainment. The state will normally have an adequate and appropriate period of time to correct the violation by implementing one or more contingency measures, as appropriate. In the event that violations continue to occur after measures have been implemented, additional contingency measures will be implemented until the violations are corrected.

8.3 Potential Contingency Measures

If monitoring data indicate a violation of the PM_{10} NAAQS, Idaho will examine the data to assess the spatial extent, severity, cause, and time period of the episode as well as trends over time. Based on this analysis, Idaho will determine which measures to implement. The following list of potential contingency measures has been or can be implemented if a violation of the PM_{10} standard occurs in the future.

- Adopt local ordinances that require covering all loads of material that may have the potential to contribute to particulate matter pollution.
- Adopt local ordinances that require no track-out onto paved roads.
- Adopt local ordinances that prohibit burning of household garbage.
- Eliminate local permits that allow any kind of uncontrolled outdoor burning not specifically allowed under state rule.
- Expand the mandatory burning restrictions to include clean-burning woodstoves during air quality alerts.
- Adopt local ordinances that prohibit constructing any unpaved private roads, driveways, or parking lots.
- Revise street sweeping plan with local highway districts and the Idaho Transportation Department based on latest traffic data to prioritize street sweeping efforts to reduce fugitive road dust.
- Analyze the impacts from all industrial sources. Develop potential emission reductions, if necessary to maintain attainment, in accordance with the rules.

Contingency measures that address emissions from stationary sources include the DEQ director's compliance order and enforcement authorities and the authority provided by IDAPA 58.01.01.401.03 to require or revise a permit of any stationary source, at any time, whenever it is determined that emission rate reductions are necessary to attain or maintain any ambient air quality standard.

In addition to the potential contingency measures discussed above, DEQ may evaluate other strategies to address any future violations in the most appropriate and cost-effective manner possible. Due to continual changes in the mixture of PM_{10} sources and evolving technologies to understand and control PM_{10} emissions and precursors, other contingency measures may become viable in the future. DEQ will evaluate the need and viability of additional contingency measures and will consider future additions to the listed measures, if necessary.

9 Summary

This plan for continued attainment of the PM_{10} NAAQS meets all requirements of a 10-year maintenance plan update.

9.1 Attainment Verification

Attainment of the NAAQS for PM_{10} in northern Ada County was demonstrated in section 4, "Air Quality Monitoring—Verification of Attainment."

9.2 Full Approval of the State Implementation Plan under Section 110

The SIP has been fully approved per section 110, with approval dates included in section 3 of this plan. Following a public comment period, DEQ will submit this maintenance plan update to EPA for approval. A summary of public participation will be provided in Appendix F.

9.3 Permanent and Enforceable Improvement in Air Quality

DEQ demonstrated in section 7 that improvements in air quality are based on permanent and enforceable emissions reductions.

9.4 Maintenance Plan Elements

The following sections have met the required maintenance plan requirements of section 110.

- Section 5: Emissions Inventory
- Section 6: Maintenance Demonstration
- Section 8: Continued Air Monitoring and Verification of Attainment
- Section 9: Contingency Plan

9.5 Subsequent Maintenance Plan Revisions

This revised maintenance plan provides for continued maintenance of the PM_{10} NAAQS for an additional 10 years beyond the original 10-year period. Consequently, no further maintenance plan updates are anticipated.

References

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Appendices

Appendix A. Rules Establishing State Authority

Appendix B. Legal Description for Northern Ada County PM_{10} Maintenance Area

Appendix C. *Speciated Linear PM_{10} Roll-Forward Modeling Report: In Support of the Northern Ada County PM_{10} Maintenance Plan Renewal*

Appendix D. *2008, 2015, and 2023 Emissions Inventories for the Treasure Valley Airshed*

Appendix E. *Development of the Base- and Future-Year Mobile Source Emissions Inventory for the Treasure Valley, Idaho*

Appendix F. Legal Notification of Public Comment Period, Public Comments Received, Public Hearing Documents, and Response to Public Comments

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