

PM10 Maintenance Plan Cañon City

Technical Support Document

Emission Inventory



FINAL

November 10, 2008

Colorado Department of Public Health and Environment

Air Pollution Control Division
4300 Cherry Creek Drive South
Denver, Colorado 80246

Table of Contents

1. EMISSION INVENTORY METHODOLOGY1

2. 2006 EMISSION INVENTORY SUMMARY.....2

3. 2020 EMISSION INVENTORY SUMMARY.....3

4. REFERENCES4

1. Emission Inventory Methodology

The Air Pollution Control Division (APCD) developed the 2006 and 2020 emission inventories in the “PM10 Maintenance Plan for Cañon City” using U.S. Environmental Protection Agency (EPA) approved emissions modeling methods, including EPA’s MOBILE6 model and local VMT data for on-road mobile source emissions, EPA’s non-road model, local demographic information for area and off-road sources, and reported actual emissions for point sources. Estimates for future emissions are based on the above-mentioned tools and the EPA’s Economic Growth and Analysis System (EGAS) model for estimating future point sources activity, and VMT growth for on-road mobile sources.

Highway mobile source emissions are from the EPA model MOBILE6, an emission factor model for predicting gram per mile emissions of Hydrocarbons (HC), Carbon Monoxide (CO), Nitrogen Oxides (NO_x), Carbon Dioxide (CO₂), Particulate Matter (PM), and toxics from cars, trucks, and motorcycles under various conditions.

Non-road source emissions are from the EPA Non-Road Model. This model includes the impact of future controls on non-road engines, which is used in equipment such as lawn and garden equipment and construction equipment.

Area source emissions (including heating, construction, railroads, etc.) are from the 2002 EPA National Emissions Inventory (NEI), grown to 2006 and 2020 by population growth from data from the State. For more documentation for these categories, refer to the NEI documentation (EPA, 2008).

Under Air Quality Control Commission Regulation No. 3, the APCD requires any source that emits two tons per year or greater to submit an Air Pollutant Emission Notice (APEN) (APCD, 2008). This means that sources that emit less than two tons per year are not necessarily accounted for in an emissions inventory. The point source emissions for Cañon City were obtained from this tracking system. The emission estimates are made using a variety of methodologies. Data from source-specific emission tests, or continuous emission monitors are preferable, but not always available. The EPA has developed a variety of emission factors to estimate emissions as well. Emission factors are frequently the best or only method available for estimating emissions.

2. 2006 Emission Inventory Summary

This section presents the 2006 emission inventories for the maintenance plan.

Table 1. 2006 PM10 Emission Inventory (pounds per day).

Area and Mobile Sources		PM-10 (Lbs/day)
	Agriculture	20.2
	Highway Vehicle Exhaust	22.8
	Railroads	0.3
	Road Dust	1237.4
	Commercial Cooking	27.4
	Construction	590.6
	Fuel Combustion	0.8
	Non-Road	33.7
	Structure Fires	1.3
	Woodburning	143.1
	TOTAL	2078
Point Sources		
site_id	facility_n	
0004	COLO DEPT OF CORRECTIONS - CTCF,CTA	7.8
0050	COLORADO QUARRIES INC CANON CITY YARD	19.1
0068	PORTEC INC - SOUTH PLANT	0.3
0074	HUMANE SOCIETY OF FREMONT CNTY	3.1
0141	CANON INDUSTRIAL CERAMICS, LLC	17.4
0142	THERMAL CERAMICS	23.3
	TOTAL	71
	Grand TOTAL	2149

3. 2020 Emission Inventory Summary

This section presents the 2020 emission inventories for the maintenance plan.

Table 2. 2020 PM10 Emission Inventory (pounds per day).

Area and Mobile Sources		PM-10 (Lbs/day)
	Agriculture	20.2
	Highway Vehicle Exhaust	30.4
	Railroads	0.3
	Road Dust	1582.7
	Commercial Cooking	35.1
	Construction	755.4
	Fuel Combustion	1.0
	Non-Road	25.0
	Structure Fires	1.6
	Woodburning	183.1
	TOTAL	2634.7
Point Sources		
site_id	facility_n	
0004	COLO DEPT OF CORRECTIONS - CTCF,CTA	9.0
0050	COLORADO QUARRIES INC CANON CITY YARD	27.6
0068	PORTEC INC - SOUTH PLANT	0.7
0074	HUMANE SOCIETY OF FREMONT CNTY	5.6
0141	CANON INDUSTRIAL CERAMICS, LLC	25.2
0142	THERMAL CERAMICS	33.8
	TOTAL	101.9
	Grand TOTAL	2736.6

4. References

APCD, 2008. Air Quality Control Commission Regulation Number 3. Stationary Source Permitting and Air Pollutant Emission Notice Requirements. 5 CCR 1001-5.
< <http://www.cdphe.state.co.us/regulations/airregs/100103stationarysourcepermitting.pdf> >

U.S. EPA, 2008. “2002 National Emissions Inventory Data & Documentation.”
< <http://www.epa.gov/ttn/chief/net/2002inventory.html#documentation> >