

Appendix A

Emissions Inventory Output Tables

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Emissions Inventory Output Tables

Appendix A includes the emissions inventory output tables for all nonattainment areas for the 2007 SIP. The inventories shown are the baseline summer season planning inventories on which the State Strategy is based.

For each precursor pollutant, the inventory tables provide emissions for stationary, areawide, and mobile sources broken down by source subcategory.

The summer planning inventories reflect adjustments for regulations adopted through 2006 and minor technical improvements not yet included in the California Emissions Forecasting System (CEFS) inventories on the ARB web site (and described in Appendix F). These adjustments are specified in a separate table for each precursor pollutant in each nonattainment area. The adjustment categories are summarized below. ARB web site addresses are also listed for further information on related rulemakings.

Baseline Adjustments – Category Descriptions

Public Fleet:

Rule to reduce diesel truck emissions in government and private utility fleets (adopted December 2005).

For more information:

<http://www.arb.ca.gov/msprog/publicfleets/publicfleets.htm>.

Idling:

Rule to limit general truck idling to five minutes (adopted July 2004) and rule to limit sleeper cab trucks to five minutes of idling or use of an auxiliary power unit (adopted October 2005).

For more information:

<http://www.arb.ca.gov/toxics/idling/idling.htm>

<http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm>.

AB 1493:

Criteria pollutant benefits from greenhouse gas limits for motor vehicles (adopted September 2004).

For more information: <http://www.arb.ca.gov/cc/ccms/ccms.htm>

Moyer:

Emission reductions from the Carl Moyer Memorial Air Quality Standards Attainment Program (\$81 million in incentive funds from 2007 through 2015). The Carl Moyer Program provides incentive grants for cleaner-than-required

engines, equipment and other sources of pollution providing early or extra emission reductions.

For more information: <http://www.arb.ca.gov/msprog/moyer/moyer.htm>.

HHDD Trucks:

Estimates for heavy-heavy-duty truck (HHDT) vehicles miles traveled for year 2005 were adjusted to match transportation agency estimates. (Further explanation below.)

Reflash:

Diesel engine software rule (adopted March 2004) and related actions to reduce heavy-duty truck NOx emissions. (Further explanation below.)

For more information: <http://www.arb.ca.gov/msprog/hdsoftware/hdsoftware.htm>

Off-road:

- Rule to reduce emissions from new truck refrigeration units (adopted February 2004).

For more information: <http://www.arb.ca.gov/diesel/tru.htm>.

- Rule to reduce emissions from new portable construction, mining, and industrial equipment (adopted February 2004).

For more information: <http://www.arb.ca.gov/diesel/statport.htm>

- Rule to reduce emissions from forklifts, generators, and pumps (adopted May 2006).

For more information:

<http://www.arb.ca.gov/msprog/offroad/orspark/orspark.htm>

Ships:

Rule to require ships to use cleaner low-sulfur fuel to power auxiliary engines within 24 nautical miles of the California coast (adopted December 2005).

For more information:

<http://www.arb.ca.gov/msprog/offroad/marinevess/marinevess.htm>

Consumer Products:

Most recent regulatory action to reduce ROG emissions from consumer products (adopted November 2006).

For more information: <http://www.arb.ca.gov/consprod/consprod.htm>

Pesticides/Fertilizers:

Updated pesticide emissions inventory data provided by the Department of Pesticide Regulation. (Further explanation below.)

San Joaquin Valley Inventory Adjustments:

As part of the San Joaquin Valley 2007 Ozone Plan development, the San Joaquin Valley air district made several adjustments to the emission inventories. (Further explanation below.)

Further Baseline Adjustment Explanations

HHDD Trucks. Adjustment for 2005 Heavy-Duty Truck VMT

ARB's on-road motor vehicle emissions model (EMFAC2007) estimates for heavy heavy-duty truck vehicle miles traveled (VMT) for year 2005 were adjusted to match transportation agency VMT estimates.

To calculate VMT for years 2000 through 2005, ARB staff used population data from the Department of Motor Vehicles (DMV) together with mileage accrual rates from the Bureau of Automotive Repair. As result, default EMFAC2007 VMT for 2000 through 2005 can differ from transportation agency estimates, which are transportation model outputs. This was the case for the 2005 heavy heavy-duty VMT estimate. For SIP purposes, State law directs ARB to use transportation agency VMT data when it is available. Ozone and PM2.5 air quality modeling was done for 2005, making it a critical year for the SIP. Therefore, ARB staff applied an external factor to heavy heavy-duty truck emissions for 2005 that matched EMFAC2007 VMT to transportation planning agency VMT.

Reflash. Heavy-Duty Diesel engine Software Upgrade

ARB staff estimates that overall benefits of the software upgrade regulation plus related actions provided approximately 38 tons per day of NOx emission reductions statewide in 2007. This is within the range of the original staff estimate of 30 to 40 tons per day. Reductions included in the adjustment beyond those required by the now invalidated regulation come from voluntary upgrade programs, ongoing engine rebuilds, engines upgrades by manufacturers exempt from the regulation, and interstate trucks.

Pesticides/Fertilizers. Pesticide ROG Inventory Adjustments

The California Department of Pesticide Regulation (DPR) is the lead agency for tracking pesticide usage. DPR provided two sets of pesticide emissions inventory updates for ozone nonattainment areas. These data are in the attached tables.

- In October 2006, DPR provided pesticide emissions based on the latest pesticide use (2004 Pesticide Use Report) data.
- Subsequently, DPR provided updated pesticide emissions estimates for five areas based on a review of recently published literature, including monitoring studies demonstrating lower emissions when fumigant applications are tarped, irrigated after application, or applied through drip irrigation systems. The five areas are:
 - Sacramento
 - San Joaquin Valley

- Southeast Desert (Antelope Valley, Western Mojave Desert, and Coachella Valley 8-hour nonattainment areas)
- Ventura
- South Coast

San Joaquin Valley Air Pollution Control District Emissions Inventory Adjustments

As part of the San Joaquin Valley 2007 Ozone Plan development, the San Joaquin Valley Air Pollution Control District (SJVAPCD) made several adjustments to the emission inventories. The inventory adjustments include two types of refinements:

- To account for recent district rulemaking activities, such as District rule 4570 – Confined Animal Facilities.
- To provide an initial accounting of previously un-inventoried source categories, such as emissions from green waste composting and biosolid management.

These adjustments are described in greater detail in Appendix B of the San Joaquin Valley 2007 Ozone Plan, as adopted by the SJVAPCD Governing Board on April 30, 2007.

San Joaquin Valley

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NOX - SJV															
Changes to Baseline*															
	2002	2005	2006	2008	2009	2010	2011	2012	2013	2014	2015	2017	2018	2020	2023
HHDD Trucks	0	-63.22	0	0	0	0	0	0	0	0	0	0	0	0	0
Reflash	-0.69	-8.75	-11.44	-11.94	-10.95	-9.96	-8.95	-7.96	-7.04	-6.12	-5.25	-3.57	-2.84	-1.73	-0.75
Public Fleet	0.00	0.00	-0.01	-0.03	-0.04	-0.05	-0.05	-0.05	-0.04	-0.04	-0.03	-0.03	-0.02	-0.02	-0.01
Idling	0.00	-2.02	-4.68	-9.99	-10.36	-10.73	-11.09	-11.45	-11.80	-12.15	-12.49	-13.12	-13.42	-13.99	-14.81
AB 1493	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.01	-0.02	-0.02	-0.02	-0.03
Moyer	-0.82	-1.09	-0.92	-0.59	-0.74	-0.90	-1.05	-1.05	-1.05	-1.05	-0.94	-0.71	-0.51	0.00	0.00
Off-road	0.00	-0.15	-0.23	-0.81	-1.34	-2.28	-2.27	-2.34	-2.40	-2.22	-2.03	-1.71	-1.58	-1.37	-1.00
Ships	0.00	0.00	0.00	-0.03	-0.03	-0.03	-0.04	-0.04	-0.04	-0.04	-0.05	-0.05	-0.05	-0.06	-0.07
Rule 4702	5.53	6.45	5.40	-1.93	-3.92	-5.89	-7.11	-8.24	-9.34	-10.39	-11.43	-10.02	-9.29	-7.75	-5.31
Rule 4103	0.00	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Rule 9310	0.00	0.00	0.00	0.11	0.22	0.22	0.33	0.33	0.44	0.54	0.65	1.27	1.25	1.22	1.17
Other District Rules (4207, 4308, 4309, & 9510)	0	0	0	4.61	5.51	6.42	7.328	7.886	6.969	6.052	5.46	4.174	4.088	4.03	3.73
Summary	4.02	-68.73	-11.82	-20.56	-21.61	-23.16	-22.84	-22.85	-24.25	-25.37	-26.07	-23.73	-22.34	-19.65	-17.01

* These are already included in "Adjusted Baseline" sheets and include Rules adopted through Dec. 31, 2006 and recently identified previously uninventoried categories

ROG - SJV															
Changes to Baseline*															
	2002	2005	2006	2008	2009	2010	2011	2012	2013	2014	2015	2017	2018	2020	2023
HHDD Trucks	0	-4.52	0	0	0	0	0	0	0	0	0	0	0	0	0
Pesticides/Fertilizers Corr.	-7.73	-4.98	-4.75	-4.28	-4.05	-3.83	-3.75	-3.68	-3.60	-3.52	-3.45	-3.30	-3.23	-3.09	-2.97
Reflash	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Public Fleet	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Idling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AB 1493	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-0.01	-0.01	-0.01	-0.02	-0.02	-0.02	-0.03
Moyer	0.00	0.00	-0.02	-0.05	-0.07	-0.09	-0.11	-0.11	-0.11	-0.11	-0.10	-0.08	-0.05	0.00	0.00
Off-road	0.00	0.00	0.00	0.00	0.00	-0.07	-0.10	-0.13	-0.16	-0.19	-0.21	-0.25	-0.27	-0.31	-0.25
Ships	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Composting Green Waste	46.60	47.20	49.13	53.00	53.67	54.33	55.00	55.40	58.70	62.00	62.67	64.00	65.00	67.00	70.00
Composting Biosolids	9.58	9.70	9.74	9.80	9.86	9.90	9.90	10.00	10.02	10.10	10.10	10.20	10.22	10.30	10.40
Rule 4602-4612	0.00	0.00	0.00	0.00	-0.82	-0.83	-0.83	-0.84	-0.84	-0.85	-0.85	-0.86	-0.86	-0.87	-0.88
Rule 4694	0.00	0.00	0.00	-1.23	-1.24	-1.25	-1.26	-1.27	-1.28	-1.29	-1.30	-1.32	-1.33	-1.35	-1.38
Rule 4570	0.00	0.00	0.00	-8.88	-18.16	-18.56	-19.09	-19.63	-20.17	-20.70	-21.24	-22.31	-22.84	-23.92	-25.52
Rule 4301	0.00	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05	-0.05
Rule 4401	0.00	0.00	0.00	-1.13	-1.11	-1.10	-1.08	-1.07	-1.06	-1.04	-1.03	-1.00	-0.99	-0.97	-0.95
Consumer Products	0.00	0.00	0.00	-1.00	-1.02	-1.03	-1.05	-1.07	-1.09	-1.11	-1.13	-1.17	-1.19	-1.24	-1.30
Summary	48.44	47.35	54.06	46.18	37.00	37.43	37.57	37.55	40.36	43.24	43.41	43.84	44.39	45.49	47.07

* These are already included in "Adjusted Baseline" sheets

and include Rules adopted through Dec. 31, 2006 and recently identified previously uninventoried categories