

APPENDIX A

Acronyms Used in Staff Report

A/C	Air Conditioning
ACCF	Air Conditioning Correction Factor
AIRS	Aerometric Information Retrieval System
ARB	California Air Resources Board
ARC/INFO	ARC/INFO GIS software by ESRI, Inc.
ASTM	American Society for Testing and Materials
BAR	California Bureau of Automotive Repair
BERs	Base Emission Rates
Board	The Air Resources Board Members
BSFC	Brake-Specific Fuel Consumption
CA	California
CALIMFAC	California I/M and Emission Factors Model
CALTRANS	California Department of Transportation
CBD	Central Business Cycle
CCF	Cycle Correction Factor
CCR	California Code of Regulations
CDEC	California Data Exchange Center
CDF	California Department of Forestry
CE-CERT	College of Engineering, Center for Environmental Research and Technology of University of California, Riverside
CFR	Code of Federal Regulations
CIFER	Colorado Institute for Fuels and High Altitude Engine Research
CIMIS	CA Irrigation Management Information System
COGs	Councils of Government
CRC	Coordinating Research Council
CSM	Colorado School of Mines
□EF	Change in Emissions Factor due to tampering
D2	Federal Reformulated Diesel Fuel
DEM	Digital Elevation Model
districts	Air pollution control or management districts
DMV	California Department of Motor Vehicles
DOF	California Department of Finance
DR	Deterioration Rate
DWR	California Department of Water Resources
EEA	Energy and Environmental Analysis, Inc.
EFEE	Engine, Fuel and Emissions Engineering, Inc.
EGR	Exhaust Gas Recirculation
EMFAC2000	Emission Factor Model 2000
ETW	Equivalent Test Weight

EVAP	Evaporative
FCF	Fuel Correction Factor
FID	Flame Ionization Detector
FTP	Federal Test Procedure
GAI	Geographic Area Index
GIS	Geographic Information Systems
g/mi	Grams Per Mile
GPS	Global Positioning System
GUI	Graphical User Interface
GVW	Gross Vehicle Weight
HDVEM	Heavy-Duty vehicle Emissions Modeling
HPMS	Highway Performance Monitoring System
HSL	ARB's Haagen-Smit Laboratory
ID	Identification
I/M, I&M	Inspection and Maintenance Program
LA4	Modes 1 and 2 of the FTP
LA92	Los Angeles 1992 Cycle (Unified Cycle)
lb.	Pounds
Mfgr.	Manufacturer
MIC	Motorcycle Industry Council
MIL	Malfunction Indicator Light
MOBILE	The Federal On-Road Emission Factor Model
MPOs	Metropolitan planning organizations
MVDAS	Motor Vehicle Data Acquisition System
MVEI Models	Motor Vehicle Emission Inventory Models
MVEI7G1.0c	The most recent MVEI version
MVSTAFF	Motor Vehicle Stock, Travel and Fuel Forecast
MY	Model Year
NCDC	National Climatic Data Center
NFRAQS	Northern Front Range Air Quality Study
NOAA	National Oceanographic and Atmospheric Admin.
NREL	National Renewable Energy Laboratory
NWS	National Weather Service
NYBC	New York Bus Composite Cycle
NYSDEC	New York State Department of Environmental Conservation and Energy
OBD	On-Board Diagnostics
PES	Pacific Environmental Services
PKE	Positive Kinetic Energy
POP	Population of Vehicles
PROC GLM	General Linear Model Procedure in SAS
Radian	Radian Corporation
RCE	Repair Correction Efficiency
RPM	Revolutions per Minute
REG	Registration
RLHP	Road Load Horsepower

RVP	Reid Vapor Pressure
SAE	Society of Automotive Engineers
SAS	Statistical Analysis Software by SAS, Inc.
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SCF	Speed Correction Factors
SC03	Air Conditioning Cycle #3
Sierra	Sierra Research, Inc.
SIP	State Implementation Plan
SHED	Sealed Housing Evaporative Determination
SSD	Stationary Source Division
Start	Vehicle starts
StCF	Start Correction Factor
TCF	Temperature Correction Factors
TDC	Teale Data Center
TDMs	Travel Demand Models
TIUS	Truck Inventory Usage Survey
TPD	Tons Per Day
UC	Unified Cycle (same as LA92)
UCC	Unified Correction Cycle
UDDS	Urban Dynamometer Driving Schedule for heavy-duty vehicles
U.S. EPA/EPA	United State Environmental Protection Agency
VMT	Vehicle Miles Traveled
WSPA	Western States Petroleum Association
WVU	University of West Virginia
ZM	Zero Mile Value

Pollutants

CO	Carbon monoxide
CO2	Carbon dioxide
HC	Total hydrocarbons
NMOG	Non-methane Organic Gases
NO _x	Oxides of Nitrogen
O3	Ozone
Pb	Lead
PM	Total particulate matter
PM ₁₀	Particulate matter 10 microns in diameter or smaller
ROG	Reactive organic gases
SO _x	Oxides of Sulfur
TOG	Total organic gases

Vehicle Classes

HDT	Heavy-Duty Trucks
HDDT	Heavy-Duty Diesel Trucks
HDGT	Heavy-Duty Gas Trucks

HHDT	Heavy-Heavy Diesel Trucks
LDA	Light-Duty Autos
LDT	Light-Duty Trucks
LDV	Light-Duty Vehicles
LHGT	Light-Heavy Gas Trucks
LHDT	Light-Heavy Diesel Trucks
MDT/MDV	Medium-Duty Trucks/Vehicles
MHGT	Medium-Heavy Gas Trucks
MHDT	Medium-Heavy Diesel Trucks
MCY	Motorcycles
PC	Passenger Cars
Tn	Truck subcategory n
UBD	Urban Transit Buses

Vehicle Technology Groups

AFC	Adaptive Fuel Control
AIR	Air Injection
DSL	Diesel-fueled vehicles
CARB	Carbureted Fuel Delivery
CAT	Catalyst-equipped vehicles
GCL	Greater Catalyst Loading
LEV	Low Emission Vehicle
LEVII	Low Emission Vehicle Program II
MEX	Mexican Vehicle
MFI/MPFI/PFI	Multipoint/Multiport Fuel Injection
NCAT	Non-catalyst-equipped vehicles
OXCAT	Oxidation catalyst
SULEV	Super ULEV (see ULEV)
SULEVII	SULEV Program II
TBI	Throttle Body Injection
TWC	Three-way Catalyst
TLEV	Transitional Low Emission Vehicle
ULEV	Ultra Low Emission Vehicle
ZEB	Zero Emission Bus
ZEV	Zero Emission Vehicle

Appendix B - EMFAC2000 Technology Groups

Tech Group	MY Group	Description
1	<75	LDV no AIR
2	<75	LDV with AIR
3	75+	LDV noncatalyst
4	75-76	LDV OxCat with AIR
5	75-79	LDV OxCat no AIR
6	80+	LDV OxCat no AIR
7	77+	LDV OxCat with AIR
8	77-79	LDV TWC TBI/CARB
9	81-84	LDV TWC TBI/CARB 0.7 NOx
10	85+	LDV TWC TBI/CARB 0.7 NOx
11	77-80	LDV TWC MPFI
12	81-85	LDV TWC MPFI 0.7 NOx
13	86+	LDV TWC MPFI 0.7 NOx
14	81+	LDV TWC TBI/CARB 0.4 NOx
15	81+	LDV TWC MPFI 0.4 NOx
16	1980	LDV TWC TBI/CARB
17	93+	LDV TWC TBI/CARB .25 HC
18	93+	LDV TWC MPFI .25 HC
19	96+	LDV TWC TBI/CRB .25 OBD2
20	96+	LDV TWC MPFI .25HC OBD2
21	94-95	LDV TLEV MPFI .25HC
22	96+	LDV TLEV OBD2 GCL
23	96+	LDV LEV OBD2 GCL CBC AFC
24	96+	LDV ULEV OBD2 GCL CBC AFC
25	ALL	ZEV
26	96+	LDT TWC MPFI OBD2 .7NOx
27	96+	LDV TWC TBI/CARB OBD2
28	04+	LDV LEV II
29	04+	LDV ULEV II
30	04+	LDV SULEV II
40	Mex	LDV NoCat/NoAir
41	Mex	LDV OxCat with AIR
42	Mex	LDV TWC TBI/CARB 0.7 NOx
43	Mex	LDV TWC MPFI 0.7 NOx
50	<77	LHD1 gas
51	77-84	LHD1 gas
52	85+	LHD1 gas
53	94+	LHD1 gas MDV
54	94+	LHD1 gas LEV
55	94+	LHD1 gas ULEV
60	pre-77	LHD1 dsl
61	1977-79	LHD1 dsl
62	1980-83	LHD1 dsl
63	1984-86	LHD1 dsl
64	1987-90	LHD1 dsl

65	1991-93	LHD1 dsl
66	1994	LHD1 dsl
67	1995	LHD1 dsl
68	1996-2001	LHD1 dsl
69	2002-03	LHD1 dsl
70	2004+	LHD1 dsl
80	<77	LHD2 gas
81	77-84	LHD2 gas
82	85+	LHD2 gas
83	94+	LHD2 gas MDV
84	94+	LHD2 gas LEV
85	94+	LHD2 gas ULEV
90	pre-77	LHD2 dsl
91	1977-79	LHD2 dsl
92	1980-83	LHD2 dsl
93	1984-86	LHD2 dsl
94	1987-90	LHD2 dsl
95	1991-93	LHD2 dsl
96	1994	LHD2 dsl
97	1995	LHD2 dsl
98	1996-2001	LHD2 dsl
99	2002-03	LHD2 dsl
100	2004+	LHD2 dsl
110	<77	MHDV gas
111	77-84	MHDV gas
112	85+	MHDV gas
120	pre-1977	MHDV dsl
121	1977-79	MHDV dsl
122	1980-83	MHDV dsl
123	1984-86	MHDV dsl
124	1987-90	MHDV dsl
125	1991-93	MHDV dsl
126	1994-97	MHDV dsl
127	1998-2001	MHDV dsl
128	2002-2003	MHDV dsl
129	2004+	MHDV dsl
140	<77	HHDV/LHV gas
141	77-84	HHDV/LHV gas
142	85+	HHDV/LHV gas
150	pre-1977	CA HHDV/LHV dsl
151	1977-79	CA HHDV/LHV dsl
152	1980-83	CA HHDV/LHV dsl
153	1984-86	CA HHDV/LHV dsl
154	1987-90	CA HHDV/LHV dsl
155	1991-93	CA HHDV/LHV dsl
156	1994-97	CA HHDV/LHV dsl
157	1998-2001	CA HHDV/LHV dsl
158	2002-2003	CA HHDV/LHV dsl
159	2004+	CA HHDV/LHV dsl
170	65-74	LDA dsl
171	75-79	LDA dsl

172	80	LDA dsl	
173	81-83	LDA dsl	
174	84-85	LDA dsl	
175	86	LDA dsl	
176	87-95	LDA dsl	
177	96+	LDA dsl	
178	65-78	LDT dsl	
179	79-80	LDT dsl	
180	81-83	LDT dsl	
181	84-85	LDT dsl	
182	86	LDT dsl	
183	87-93	LDT dsl	
184	94-96	LDT dsl	
185	97+	LDT dsl	
186	65-78	MDT dsl	<8500LBS
187	79-80	MDT dsl	
188	81-82	MDT dsl	
189	83-84	MDT dsl	
190	85-86	MDT dsl	
191	87-90	MDT dsl	
192	91-93	MDT dsl	
193	94-96	MDT dsl	
194	97+	MDT dsl	
200	pre-1979	Federal HHDV/LHV	dsl
201	1979-83	Federal HHDV/LHV	dsl
202	1984-87	Federal HHDV/LHV	dsl
203	1988-90	Federal HHDV/LHV	dsl
204	1991-93	Federal HHDV/LHV	dsl
205	1994-97	Federal HHDV/LHV	dsl
206	1998-2001	Federal HHDV/LHV	dsl
207	2002-2003	Federal HHDV/LHV	dsl
208	2004+	Federal HHDV/LHV	dsl
220	<73	UB dsl	
221	73-83	UB dsl	
222	84-90	UB dsl	
223	91-93	UB dsl	
224	94-95	UB dsl	
225	96+	UB dsl	
230	<77	SBUS gas	
231	77-84	SBUS gas	
232	85+	SBUS gas	
240	pre-1977	SBUS dsl	
241	1977-79	SBUS dsl	
242	1980-83	SBUS dsl	
243	1984-86	SBUS dsl	
244	1987-90	SBUS dsl	
245	1991-93	SBUS dsl	
246	1994-97	SBUS dsl	
247	1998-2001	SBUS dsl	
248	2002-2003	SBUS dsl	
249	2004+	SBUS dsl	

Motorcycles

260	2 stroke/6g evap
261	Pre-1978/6g evap
262	78-79Carb/6g evap
263	80-81Carb/6g evap
264	82-84Carb/6g evap
265	85-87Carb/2g evap
266	88-2003Carb/2g evap
267	88-2003FI/2g evap
268	88-2003Carb+cat/2g evap
269	88-2003FI+cat/2g evap
270	2003-08carb/2g evap
271	2003-08FI/2g evap
272	2003-08 Caer+cat/2 evap
273	2003-08FI+cat/2g evap
274	2008+carb/2 evap
275	2008+fi/2 evap
276	2008+Carb+Cat/2g evap
277	2008+FI+Cat/2 g evap

