

ATTACHMENT 4

APPENDIX D

TABLES FOR EMISSION REDUCTION AND COST-EFFECTIVENESS CALCULATIONS

This appendix presents tables summarizing the data needed to calculate the emission reductions and cost-effectiveness of potential projects. Included are data such as engine emission factors, load factors, and other conversion factors used in the calculations discussed in Appendix C: Cost-Effectiveness Calculation Methodology.

Table D-3
Heavy-Duty Vehicles
14,001-33,000 pounds (lbs) Gross Vehicle Weight Rating (GVWR)
Emission Factors for Mileage Based Calculations (g/mile)^(a)

Model Year	Diesel ^(b)		
	NOx	ROG ^(c)	PM10
Pre-1987	14.52	0.75	0.695
1987-1990	14.31	0.59	0.755
1991-1993	10.70	0.26	0.4109
1994-1997	10.51	0.20	0.2326
1998-2002	10.33	0.20	0.2549
2003-2006	6.84	0.13	0.1657
2007-2009	4.01	0.11	0.0217
2007-2009 2007+ (0.21- 0.50 g/bhp-hr NOx or Cleaner) ^(d)	1.73	0.10	0.017
2010+ (0.20 g/bhp-hr NOx or cleaner)	0.74	0.09	0.0217

a - EMFAC 2011 Zero-Mile Based Emission Factors.

b - Emission factors incorporate the ultra low-sulfur diesel fuel correction factors listed in Table D-26.

c - ROG = HC * 1.26639.

d - Use interpolated values assuming 1.2 g/bhp-hr NOx Standards for 2007-2009 Model Year Grouping and 0.2 g/bhp-hr NOx Standards for 2010+ Model Years.

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**Table D-4
Heavy-Duty Vehicles
Over 33,000 lbs GVWR
Emission Factors for Mileage Based Calculations (g/mile)^(a)**

Model Year	Diesel ^(b)		
	NOx	ROG ^(c)	PM10
Pre-1987	21.37	1.09	1.2547
1987-1990	21.07	0.86	1.355
1991-1993	18.24	0.56	0.562
1994-1997	17.92	0.42	0.3765
1998-2002	17.61	0.43	0.403
2003-2006	11.64	0.27	0.254
2007-2009	6.62	0.23	0.0328
2007-2009 2007+ (0.21-0.50 g/bhp-hr NOx or Cleaner) ^(d)	2.88	0.20	0.028
2010+ (0.20 g/bhp-hr NOx or cleaner)	1.27	0.19	0.0328

a - EMFAC 2011 Zero-Mile Based Emission Factors.

b - Emission factors incorporate the ultra low-sulfur diesel fuel correction factors listed in Table D-26.

c - ROG = HC * 1.26639.

d - Use interpolated values assuming 1.2 g/bhp-hr NOx Standards for 2007-2009 Model Year Grouping and 0.2 g/bhp-hr NOx Standards for 2010+ Model Years.