SECTION A

Calculation of Fleet Average Using Megawatt-Hours/Gallons of Fuel

(Contains Forms F-A-1 through F-A-6)

Form F-A-1

Calculation of FA in Accordance with Paragraph III.B.1 of Memorandum

I. Using all available data, complete this Part I and include each locomotive operated by the Participating Railroad in the South Coast Nonattainment Area during the year. Use additional pages as needed. See the notes to this Form F-A-1 for additional instructions. If the data on this schedule represent less than 90% of the Participating Railroad's locomotives operated in the South Coast Nonattainment Area during the year, also complete Part II below. Otherwise, go to Part III.

(1) Line No.	(2) Locomotive ID No. [Note 1]	(3) CL (g/bhphr)	(4) Adj. to CL (g/bhphr) [Note 2]	(5)=(3)-(4) EL (g/bhphr)	(6) MWhr (or Gal. of Fuel) [Note 3]	(7)=(5)x(6) EL x MWhr
1						
2						
3						
etc.						
		See Attached Sheets for details				

Total of Columns 6 and 7 - Part I	**64195**	**359920**

Form F-A-1
(continued)

Calculation of FA in Accordance with Paragraph III.B.1 of Memorandum

II. Complete this Part II only if the data in Part I represent less than 90% of the Participating Railroad's locomotives operated in the South Coast Nonattainment Area during the year (see paragraph III.E.2 of the Memorandum). Information provided in this Part II should be estimated data for enough missing locomotives so that the combination of data in Parts I and II represents at least 90% of the Participating Railroad's locomotives operated in the South Coast Nonattainment Area during the year. Estimations should be based on data for locomotives operated on similar trains within the South Coast Nonattainment Area, and should be explained on Form F-A-5.

(1) Line No.	(2) Estimated Locomotive [Note 1]	(3) CL (g/bhphr)	(4) Adj. to CL (g/bhphr) [Note 2]	(5)=(3)-(4) EL (g/bhphr)	(6) Est. MWhr (or Gal. of Fuel) [Note 3]	(7)=(5)x(6) EL x MWhr
1	1					
2	2					
3	3					
etc.	etc.					
		See Attached Sheets for details				

Total of Columns 6 and 7 - Part II	**162475**	**998293**

2012 UP South Coast Fleet Average- Form F-A-1 Summary

(1) Line No.	(2) Count of Locomotives	Sum of WMTR MWHR	(3) CL (g/bhphr)	(4) Average Adj. to CL (g/bhphr)	(5) Average EL (g/bhphr)	(6) Average MWhr per Loco	(7) Total Weighted MWhr	Tier	% MW-hrs by Tier	% locos by Tier
1	10	969.78	1.25	0.08	1.18	96.98	1139.49	ULEL	5.1%	1.2%
2	61	10578.68	2.80	0.17	2.63	173.42	27843.09			
(subtotal)	*71*	*11548.46*					*28982.57*			
3	168	2463.95	4.60	0.14	4.46	14.67	10994.2	3	3.0%	4.2%
4	73	4217.59	5.30	0.16	5.14	57.78	21682.6			
(subtotal)	*241*	*6681.54*					*32676.78*			
5	9	538.21	3.40[a]	0.10	3.30	59.80	1775.0	2/2+	50.4%	25.6%
6	5	30.75	3.80	0.00	3.80	6.15	116.9			
7	206	10049.54	4.90	0.15	4.75	48.78	47765.5			
8	24	183.07	4.95	0.15	4.80	7.63	879.0			
9	240	16013.90	5.00	0.19	4.81	66.72	76781.6			
10	113	11596.57	5.10	0.15	4.95	102.62	57346.6			
11	42	3724.15	5.20	0.16	5.04	88.67	18784.6			
12	252	21396.87	5.30	0.16	5.14	84.91	110001.3			
13	58	5119.35	5.40	0.16	5.24	88.26	26815.2			
14	507	45332.07	5.50	0.17	5.34	89.41	241863.7			
(subtotal)	*1456*	*113984.48*					*582129.39*			
15	1	5.38	5.10[b]	0.15	4.95	5.38	26.6	1/1+	13.1%	23.4%
16	47	444.26	6.00	0.18	5.82	9.45	2585.6			
17	25	285.68	6.20	0.19	6.01	11.43	1718.1			
18	28	140.56	6.70	0.20	6.50	5.02	913.5			
19	401	11291.17	6.80	0.20	6.60	28.16	74476.6			
20	387	10825.02	6.90	0.21	6.69	27.97	72476.2			
21	309	5786.31	7.00	0.21	6.79	18.73	39289.0			
22	22	197.32	7.20	0.22	6.98	8.97	1378.1			
23	89	502.68	7.40	0.22	7.18	5.65	3608.2			
24	4	88.36	7.80[c]	0.23	7.57	22.09	668.5			
25	3	11.65	8.60[c]	0.26	8.34	3.88	97.2			
26	13	52.66	9.00[c]	0.27	8.73	4.05	459.7			
27	1	7.74	9.20[c]	0.28	8.92	7.74	69.1			
28	2	7.74	9.50[c]	0.29	9.22	3.87	71.3			
29	1	3.87	13.00[b]	0.39	12.61	3.87	48.8			
(subtotal)	*1333*	*29650.39*					*197886.48*			
30	34	2041.14	6.70[d]	0.40	6.30	60.03	12855.1	0/0+	27.8%	44.1%
31	1	3.68	6.80[b]	0.20	6.60	3.68	24.2			
32	1	8.69	7.00[e]	0.21	6.79	8.69	59.0			
33	152	4514.41	7.20[d]	0.22	6.98	29.70	31528.7			
34	1	10.92	7.40[b]	0.22	7.18	10.92	78.4			
35	3	16.14	7.50	0.23	7.28	5.38	117.4			
36	399	13690.89	7.60	0.23	7.37	34.31	100929.3			
37	4	494.91	7.70	0.39	7.31	123.73	3595.2			
38	698	18848.55	7.80	0.23	7.57	27.00	140980.9			
39	6	28.12	8.00	0.24	7.76	4.69	218.2			
40	45	3830.62	8.10	0.49	7.61	85.12	29113.1			
41	3	13.14	8.40	0.25	8.15	4.38	107.1			
42	31	296.09	8.50	0.26	8.25	9.55	2441.3			
43	31	496.53	8.60	0.26	8.34	16.02	4108.3			
44	10	69.60	8.70	0.26	8.44	6.96	587.4			
45	3	11.04	8.80	0.26	8.54	3.68	94.2			
46	60	1175.35	8.90	0.27	8.63	19.59	15326.4			
47	634	7922.81	9.00	0.27	8.73	12.50	69163.5			
48	277	4793.81	9.10	0.27	8.83	17.31	42272.1			
49	9	161.49	9.20	0.40	8.80	17.94	1401.4			
50	56	708.96	9.50	0.29	9.21	12.66	6526.4			
51	15	1034.30	10.10[d]	0.61	9.49	68.95	9819.6			
52	7	326.80	10.70[d]	0.64	10.06	46.69	3286.9			
53	14	1525.87	10.90[d]	0.65	10.25	108.99	15364.1			
54	3	403.04	11.10[d]	0.56	10.54	134.35	4210.3			
55	1	1.80	11.65[d]	0.70	10.95	1.80	19.7			
56	7	368.18	11.80[d]	0.71	11.09	52.60	4083.9			
57	2	64.24	13.00[e]	0.39	12.61	32.12	810.1			
(subtotal)	*2507*	*62861.14*					*499122.01*			
58	71	1421.40	13.00	0.54	12.46	20.02	17512.4	NR	0.7%	1.4%
59	2	13.45	13.10	0.59	12.51	6.73	166.7			
60	7	72.42	16.70	1.00	15.70	10.35	1136.8			
(subtotal)	*80*	*1507.27*					*18815.92*			
Totals	**5,688**	**226233.28**					**1359613.16**		**100%**	**100%**
					Fleet Average:		**6.0**			

[a] *Model type SD59MX locomotives w/Tier 2 engine family per EPA Certificate of Conformity, currently operating under an EPA test exemption with experimental aftertreatment; formerly identified as ULELs in 2011 summary*

[b] *includes locomotive information as provided by other railroads. UPRR has no ability to verify accuracy.*

[c] *includes engines certified per ABT credits (EPA 1033, subpart H)*

[d] *Engine family certified to Tier 0 or 0+ per EPA Certificate of Conformity*

[e] *best info available from UP database for these units*

Form F-A-1
(continued)

Calculation of FA in Accordance with Paragraph III.B.1 of Memorandum

III. Complete this Part III to calculate FA.

		(1) MWhr (or Gal. of Fuel)	(2) EL x MWhr	
A.	Totals from Columns 6 and 7 - Part I	64195	359920	
B.	Totals from Columns 6 and 7 - Part II	162475	998293	
C.	Sum of Lines A and B	226670	1358213	
D.	FA in g/bhphr (Line C, Column 2 divided by Line C, Column 1)			**6.0**

Form F-A-1
(continued)

Calculation of FA in Accordance with Paragraph III.B.1 of Memorandum

Notes to Form F-A-1

[1] If two or more nominal locomotives are used for one particular physical locomotive, add letters (e.g., A, B) to the physical locomotive's ID No. to identify the nominal locomotives. See paragraphs III.B.1 and III.C.4 of the Memorandum for additional information.

[2] Any adjustment to CL should be made in accordance with paragraphs III.C.1 and III.C.3 of the Memorandum. If an adjustment is made to any CL, complete Part I of Form F-A-3.

Note: The phrase "Adjustment to CL" is used throughout this Appendix F to mean an adjustment to EL_i in accordance with paragraphs III.C.1 and III.C.3 of the Memorandum.

[3] Entries in this column 6 should either be entirely expressed in megawatt-hours or entirely in gallons of fuel. To convert one measure to the other, see Appendix B of the Memorandum. If any conversions are made, complete Form F-A-4.

Proceed to Form F-A-2.

Form F-A-2

Calculation of Final FA in Accordance with Subsection III.D of Memorandum

Complete this form to calculate Final FA. All entries should be expressed in g/bhphr.

A.	Enter the value shown on Line D of Part III of Form F-A-1.	**_6.0_**
B.	Enter the total of all adjustments made to FA in accordance with paragraph III.D.1 of the Memorandum. If any adjustment is made to FA, complete Part II of Form F-A-3.	**__0__**
C.	Calculate Adjusted FA (Line A - Line B)	**_6.0_**
D.	If Line C is less than or equal to Fleet Average Target, or if this report is for a year prior to 2010, enter zero. Otherwise, enter any correction made to account for atmospheric conditions in accordance with paragraph III.D.2 of the Memorandum. Do not enter more than the difference between Line C and Fleet Average Target. If a correction is made to account for atmospheric conditions, complete Part III of Form F-A-3.	**__0__**
E.	Calculate Adjusted/Corrected FA (Line C - Line D); round to nearest 0.1 g/bhphr (see Appendix C of Memorandum)	**_6.0_**
F.	If Line E is less than or equal to Fleet Average Target, or if this report is for a year prior to 2010, enter zero. Otherwise, enter any available emission reductions from Line E of Part I of Form F-A-6 and/or Part II of Form F-A-6 which the Participating Railroad wishes to deduct from Line E in accordance with paragraph III.D.3 of the Memorandum. Do not enter more than the difference between Line E and Fleet Average Target.	**_0.5_**
G.	Calculate Final FA in g/bhphr (Line E - Line F)	**5.5**

Note: Line G must be less than or equal to Fleet Average Target for the Participating Railroad to be in compliance.

Proceed to Forms F-A-3 through F-A-5, if applicable. Otherwise, complete Form F-A-6.

Form F-A-3

Adjustments to CL,
Adjustments to FA,
and
Correction to FA

I. Adjustments to CL

For each locomotive whose CL was adjusted in column 4 of either Part I or Part II of Form F-A-1, complete the following information. Use additional pages as needed.

Locomotive ID No. or Estimated Locomotive No.:		(summary)
A.	Adjustment to CL shown on Form F-A-1 (g/bhphr)	3 or 6%
B.	Has Adjustment to CL been accepted previously by California Air Resources Board (ARB) in accordance with the terms of Appendix D of the Memorandum?	_Yes_
C.	If Line B is Yes, enter date. If Line B is No, go to Line F.	11/18/04
D.	Has locomotive been remanufactured, as defined in the Final EPA National Locomotive Rule, since the date shown on Line C?	(some – yes)
E.	If Line D is Yes, complete Line F. Otherwise, proceed to next locomotive.	
F.	Explain below, in detail, the reasons for the Adjustment to CL and show how it was calculated. Attach all supporting data and evidence. This information will be used by ARB to determine whether to accept the Adjustment to CL. See paragraphs III.C.3, III.C.4, IV.C.4, IV.C.5 and Appendix D of the Memorandum.	Adjustment for CARB fuel (CL certified to EPA diesel)

Notes: Adjustment percentage to CL based on locomotive service type (line-haul vs. captive). Captive units are always fueled with CARB-spec diesel (and therefore, the full 6% adjustment applies), while line-haul locomotives average fueling in California between interstate trips, and therefore, the "half" level of 3% adjustment applies.

This is a generalized summary applicable for all locomotives (individual Form F-A-3 for each locomotive would result in printing several thousand additional pages of nearly identical information). Individual CL adjustments for each locomotive are listed for the entries in Form F-A-1, column 4.

Form F-A-3

(continued)

Adjustments to CL,
Adjustments to FA,
and
Correction to FA

II. Adjustments to FA

For each Adjustment to FA made in accordance with paragraph III.D.1 of the Memorandum, and included on Line B of Form F-A-2, complete the following information. Use additional pages as needed.

Adjustment to FA No.: (Number each Adjustment, beginning with "1")		**_N/A_**
A.	How much of the total Adjustment to FA included on Line B of Form F-A-2 is attributable to this Adjustment to FA (in g/bhphr)?	_____
B.	Has this Adjustment to FA been accepted previously by California Air Resources Board (ARB) in accordance with the terms of paragraph III.D.1 and Appendix D of the Memorandum?	_____
C.	If Line B is Yes, enter date and proceed to next Adjustment.	_____
D.	Explain below, in detail, the reasons for this Adjustment to FA and show how it was calculated. Attach all supporting data and evidence. This information will be used by ARB to determine whether to accept this Adjustment to FA. See paragraphs III.C.3, III.C.4, III.D.1, IV.C.4, IV.C.5 and Appendix D of the Memorandum.	

Form F-A-3
(continued)

Adjustments to CL,
Adjustments to FA,
and
Correction to FA

III. Correction to FA

If a Correction to FA for atmospheric conditions was made in accordance with paragraph III.D.2 of the Memorandum, and was included on Line D of Form F-A-2, complete the following information. Use additional pages as needed.

A.	Show the Correction to FA included on Form F-A-2 (in g/bhphr)	**_N/A_**
B.	Has the methodology used for the Correction to FA been accepted previously by California Air Resources Board (ARB) in accordance with the terms of Appendix D of the Memorandum?	_____
C.	If Line B is Yes, enter date.	_____
D.	Show below, in detail, how the Correction to FA was calculated. Attach all supporting data and evidence. This information will be used by ARB to determine whether to accept the Correction to FA. If Line B is No, it will also be used to determine whether to accept the methodology. See paragraphs III.D.2 and Appendix D of the Memorandum.	

Form F-A-4

Factors to Convert between Gallons of Fuel and MWhr

For each locomotive whose Gallons of Fuel were converted to MWhr (or vice versa) in order to make an entry in column 6 of Part I or II of Form F-A-1, complete the following information. Use additional pages as needed.

Locomotive ID No. or Estimated Locomotive ID No.:		**_N/A_**
A.	Indicate whether original data for the locomotive were collected in gallons of fuel or MWhr.	_____
B.	What conversion factor was used?	_____
C.	Has the methodology used to develop the conversion factor been accepted previously by California Air Resources Board (ARB) in accordance with the terms of Appendix D of the Memorandum?	_____
D.	If Line C is Yes, enter date.	_____
E.	Show below, in detail, how the conversion factor was calculated. Attach all supporting data and evidence. This information will be used by ARB to determine whether to accept the conversion factor. If Line C is No, it will also be used to determine whether to accept the methodology. See paragraphs IV.C.4, IV.C.5 and Appendix B of the Memorandum.	

Form F-A-5

Estimation of Missing Locomotives

If it was not necessary to complete Part II of Form F-A-1, do not complete this form.

For each "Estimated Locomotive" shown in Part II of Form F-A-1, complete the following information. Use additional pages as needed.

Estimated Locomotive No. from Part II of Form F-A-1:		**(all listed in Part II)**
A.	What missing train would this Estimated Locomotive have powered?	**Type-dependent (see below)**
B.	What similar train is being used as the benchmark for the missing train?	**Type-dependent (see below)**
C.	What locomotive model powered the benchmark train, and is the basis for this Estimated Locomotive?	**Same locomotive model/Yes**
D.	Are the data shown in columns 3-6 of Part II of Form F-A-1 consistent with the answers to A, B, and C?	**Yes**

Notes: UPRR has equipped new locomotives and retrofitted some older locomotives with wattmeters to gather actual usage information for all model types. Most foreign-line (non-UPRR owned or leased) locomotives do not report wattmeter readings, and therefore are needed to be estimated.
As presented to CARB in 2007, UPRR has developed model-specific locomotive matrices where usage values are calculated by train type. These matrices are constantly updated with new data for the annual calculations and are available upon request.

Form F-A-6

FAC and Other Emissions Reductions

I. Summary of FAC Transactions (in g/bhphr)

		(1) Created Pre-2010	(2) Created Post-2009	(3) Total
A.	Ending FAC balance -- last annual report	_12.8_	_6.4_	_19.2_
B.	FAC acquired from Other Participating Railroad since last annual report, if any	__N/A__	__0__	__0__
C.	FAC created from ULELs during the year, if any (Line F of Form F-D-2)	__0__	__3.1__	__3.1__
D.	FAC transferred to Other Participating Railroad or others since last annual report, if any	__N/A__	__0__	__0__
E.	Total FAC available for use in this annual report -- subject to restrictions on pre-2010 FAC noted in subparagraph III.D.3.a of Memorandum (Line A+Line B+Line C-Line D)	12.8	9.5	22.3
F.	FAC used in this annual report, if any (included in total emission reductions shown on Line F of Form F-A-2)	_(0.6)_	__0__	_(0.5)_
G.	FAC created during the year other than Line C, if any (Fleet Average Target# - Final FA shown on Line G of Form F-A-2, provided Fleet Average Target# exceeds Final FA)	__N/A__	__0__	__0__
H.	Ending FAC balance -- this annual report (Line E-Line F+Line G)	12.2	**9.5**	**21.8**

Form F-A-6
(continued)

FAC and Other Emissions Reductions

Notes to Form F-A-6

[#] For years 2005-2009, do not use Fleet Average Target. Instead, substitute (1-y) x 15.4 g/bhphr, as defined in paragraph III.F.2 of Memorandum.

Note: If an entry is shown on Line F, no entry can be shown on Line G (and vice versa). Also, if an entry is shown in column 1 of Lines C or G, no entry can be shown in column 2 of Lines C or G (and vice versa).

Form F-A-6
(continued)

FAC and Other Emissions Reductions

II. Emission Reductions Other than FAC

List the amount of emissions reductions other than FAC, if any, shown on Line F of Form F-A-2 (in g/bhphr). In accordance with subparagraph III.D.3.a of the Memorandum, this amount cannot exceed 0.3 g/bhphr. In addition, the sum of (1) the amount shown here, and (2) the pre-2010 FAC included on Line F of Form F-A-2 (and shown on Line F, column 1 of Part I of this Form F-A-6) cannot exceed 1.3 g/bhphr.	**_N/A_**
Attach documentation for the above emission reductions other than FAC, including a description of the reductions, how acquired, date acquired, and amount acquired. Note that subparagraph III.D.3.a and Appendix E of the Memorandum stipulate a fixed conversion rate from tons to g/bhphr.	

III. Reconciliation of Line F of Form F-A-2

A.	Show amount from Line F, column 3 of Part I of this Form F-A-6	_____
B.	Show amount from Part II of this Form F-A-6	_____
C.	Line A + Line B (should equal Line F of Form F-A-2)	_____