Attachment 2

ENGINE FAMILY INFORMATION FILE

| 1 | | | | | | |
|----|------------|---|-----|--|---|--------------------------------|
| | QTR | О | 3 | 100 = Jan-Mar 2000 | First Digit = Quarter number | (c)(4)(E)(vii) |
| | | | | 200 = Apr-Jun 2000 | Second and Third Digits = Last two digits | |
| | | | | 300 = Jul-Sep 2000 400 = Oct-Dec 2000 | of the calendar year | |
| 2 | EO | О | 11 | Example: U-U-XX-XXX | Executive Order number | (c)(4)(E)(vii) |
| 3 | MFR | О | 4 | Example: WXYZ Four letter code name for manufacturer | 4 digit manufacturer name code as specified in Table 1 | (b)(5)(A), (c)(4)(E) |
| 4 | ENGFAM | С | 12 | Example: YXYZS.072ABC | 12-digit engine family name used for certification | (b)(5)(B)(iv), (c)(4)(E)(v) |
| 5 | MODELYR | Ζ | 4 | Example: 2000, 2001 | Model Year of engine family | (c)(4)(E)(v), (c)(4)(E)(vii) |
| 6 | MDLPWR | N | 2.2 | Range: 0 to 24.99 | Maximum MODAL power from certification | (c)(4)(E)(v) |
| | ENGTYPE | С | 1 | S= Spark ignition C= Compression ignition | Engine type | (b)(5)(B)(iv), (c)(4)(E)(v) |
| 8 | SAMPLOPT | O | 3 | CSM = cum sum method 1PT=1% sample OSP= Other sample plan | Sample option method: cum sum, 1% QA or other sample plan | (c)(4)(E)(iv) |
| 9 | ENGCLASS | С | 1 | A : 0 to 65cc Inclusive B : >65cc to <225cc C : >=225cc | Spark-ignition engine class/displacement as designated in the standards table | (b)(5)(B)(iv), (c)(4)(E)(v) |
| 10 | HPCLASS | Ζ | 1 | 1: <11HP 2: >=11 to <25HP | Compression-ignition horsepower class as designated in the standards table | (b)(5)(B)(iii), (c)(4)(E)(v) |
| 11 | SHAFT | С | 1 | H=Horizontal; V=Vertical; N=not applicable | Certified to horizontal or vertical engine shaft standard or not applicable | (b)(5)(B)(iii), (c)(4)(E)(v) |
| 12 | CERTFUEL | С | 3 | IND= Indolene PH2= Ca Phase 2 reformulated gasoline DS1= Diesel 13CCR2282 DS2= Diesel 40CFR86.113-90 DS3= Diesel 40CFR86.113-94 CNG=Compressed Natural Gas LPG= Liquefied Petroleum Gas C&L= CNG & LPG | Fuel used during certification | (b)(5)(B)(iv), (c)(4)(E)(v) |
| 13 | STD_FEL | С | 1 | F = Family Emission Limit (FEL) S = Standard | Certified to Family Emission Level (FEL) or standard | (b)(5)(B)(iii), (c)(4)(E)(iii) |
| 14 | CARRYOVER | С | 1 | Y=Yes or N=No | Is engine family a carryover? | (c)(2)(A)(ii) |
| 15 | HCNOXSTD | Ν | 2.1 | Example: 12.0 | Applicable HCNOx standard or FEL | (b)(5)(B)(iii), (c)(4)(E)(iii) |
| 16 | COSTD | Ν | 3.1 | Example: 300 | Applicable CO standard or FEL | (b)(5)(B)(iii), (c)(4)(E)(iii) |
| 17 | PMSTD | Ν | 1.2 | Example: 1.5 | Applicable PM standard or FEL | (b)(5)(B)(iii), (c)(4)(E)(iii) |
| 18 | DRBLTY | С | 4 | Example: Range 50 to 3000 hrs or 5yrs or NA = not applicable | Durability period in hours or years | (b)(5)(B)(iii), (c)(4)(E)(iii) |
| 19 | HCNOXDF | N | 1.3 | Example: 1.394 (multiplicative) Range: 0.000 to 9.999 | HC+NOX deterioration factor | (b)(5)(B)(iii), (c)(4)(E)(iii) |
| 20 | CODF | N | 1.3 | Example: 1.082 (multiplicative) Range: 0.000 to 9.999 | CO deterioration factor. | (b)(5)(B)(iii), (c)(4)(E)(iii) |
| 21 | PMDF | Ν | 1.3 | Range: 0.000 to 9.999 | Particulate matter deterioration factor. | (b)(5)(B)(iii), (c)(4)(E)(iii) |
| 22 | HCCDTDBT | N | 8 | Range: 0.0 to +/- 9999999 | HCNOX projected credits or debits at certification, in grams | 2408 (f) |
| | PMCDTDBT | N | 8 | Range: 0.000 to +/- 9999999 | PM projected credits or debits at certification, in grams | 2408 (f) |
| | REVFEL | С | 1 | Y = Yes or N = No | Indicates if FEL was revised since certification. | (c)(4)(E)(iii) |
| 25 | REVFELDATE | D | 10 | Ex: January 22, 2000 = 2000/01/22 Format: yyyy/mm/dd | Date of the latest FEL revision in date format. | (c)(4)(E)(iii) |

^{*} Reference to Subsections of the California Code of Regulations, Title 13, Section 2407 with the exception of data names HCCDTDBT and PMCDTDBT (credits)

Attachment 3

ENGINE FAMILY DATA PER QUARTER FILE

| Sequence | Data Name | Туре | Length | Range or Domain | Description | Reference* |
|----------|----------------|------|--------|--|---|-------------------------------|
| 1 | QTR | С | 3 | 100 = Jan-Mar 2000 200 = Apr-Jun 2000 300 = Jul-Sep 2000 400 = Oct-Dec 2000 | First Digit = Quarter Number Second and Third Digit = Last two digits of calendar year | (c)(4)(E)(vii) |
| 2 | ENGFAM | С | 12 | Example: YXYZS.072ABC | 12-digit engine family name used at certification | (b)(5)(B)(iv), (c)(4)(E)(v) |
| 3 | TESTFUEL | С | 3 | IND = Indolene PH2 = Phase 2 Gasoline DS1 = Diesel 13CCR 2282 DS2 = Diesel 40CFR86.113-90 DS3 = Diesel 40CFR86.113-94 CNG = Comp. Natural Gas (cert.grade) LPG = Liq. Petroleum Gas (cert.grade) OTH = Other | Type of fuel used for emission testing of this engine family | (b)(5)(B)(iv), (c)(4)(E)(v) |
| 4 | RUNIN | N | 2.2 | Example: 10.25 hours Range: 0 to 12 hours | Breakin time used for this engine family including preconditioning | (b)(5)(B)(iv), (c)(4)(E)(v) |
| 5 | STARTUP | D | 10 | Example: July 20, 2000 = 2000/07/20 format: year/month/day | Start date of production for this engine family. Report every quarter after start up. | (b)(5)(B)(xi) |
| 6 | BUILDOUT | D | 10 | Example: July 20, 2001 = 2001/07/20 format: year/month/day | Engine family build-out date; date of the end of the manufacturer's production. Leave blank until production ends | (b)(5)(B)(ix), (c)(4)(E)(vi) |
| 7 | CADISTR | N | 6 | Example: 52500 Range: 0 to 999999 | Number of engines produced for California this quarter | (b)(5)(B)(i), (c)(4)(E)(ii) |
| 8 | PRODSIZE | N | 7 | Range: 0 to 999999 Example: 700500 Range: 0 to 9999999 | Total number of engines produced this quarter for the engine family | (b)(5)(B)(i), (c)(4)(E)(ii) |
| 9 | SAMPSIZE | N | 3 | Range: 0 to 9999999 ex. 5 Range: 0 to 999 | Number of engines tested this quarter | (b)(5)(B)(i), (c)(4)(E)(ii) |
| 10 | REQSAMP | N | 2 | Example: 8 Range: 0 to 30 | Test sample required for cum sum (N calculation) for engine family for model year as of the end of the quarter | (c)(4)(E)(ii), (c)(2)(B)(i) |
| 11 | HCMEAN | N | 3 | Range: 0 to 999 rounded per ASTM-E-29-93a to number of significant digits in std | HC mean (in g/hp-hr) for the quarter for QA testing or accumulatively for cum sum without DFs applied | (b)(5)(B)(vii) |
| 12 | NOXMEAN | N | 1.1 | ex. 0.9 rounded per ASTM-E-29-93a to number of significant digits in std | NOx mean (in g/hp-hr) for the quarter for QA testing or accumulatively for cum sum without DFs applied | (b)(5)(B)(vii) |
| 13 | HCNOXMN | N | 2.1 | ex. 10.3 rounded per ASTM-E-29-93a to number of significant digits in std Range: 0.0 to 99.9 | HCNOX mean (in g/hp-hr) for the quarter for QA testing or accumulatively for cum sum without DFs applied | (b)(5)(B)(vii), (c)(4)(E)(ii) |
| 14 | HCNOXSD | N | 2.3 | Range: 0.000 to 99.999 | HCNOX standard deviation (in g/hp-hr) quarterly for QA testing or accumulatively for cum sum without DFs applied | (b)(5)(B)(vii), (c)(4)(E)(ii) |
| 15 | COMEAN | N | 3.1 | Range: 0.0 to 999.9 rounded per ASTM-E-29-93a to number of significant digits in std | CO mean (in g/hp-hour) for the quarter for QA testing or accumulatively for cum sum testing without DFs applied | (b)(5)(B)(vii), (c)(4)(E)(ii) |
| 16 | COSDEV | N | 3.2 | Range: 0.0 to 999.99 | CO standard deviation (in g/hp-hr) quarterly for QA testing or accumulatively for cum sum without DFs applied | (b)(5)(B)(vii), (c)(4)(E)(ii) |
| 17 | PMMEAN | N | 1.2 | Range: 0.00 to 9.99 rounded per ASTM-E-29-93a to number of significant digits in std | PM mean (in g/hp-hr) for the quarter for QA testing or accumulatively for cum sum testing without DFs applied | (b)(5)(B)(vii), (c)(4)(E)(ii) |
| 18 | PMSDEV | N | 1.4 | Range: 0.0000 to 9.9999 | PM standard deviation (in g/hp-hr) quarterly for QA testing or accumulatively for cum sum without DFs applied | (b)(5)(B)(vii), (c)(4)(E)(ii) |
| 19 | HCNOXMN WDF | N | 2.1 | ex. 10.3 rounded per ASTM-E-29-93a to number of significant digits in std Range: 0.0 to 99.9 | HCNOx mean (in g/hp-hr) with DFs applied, as applicable, for the required reporting period | (b)(5)(B)(vii) |
| 20 | HCNOXSDW DF | N | 2.3 | Range: 0.000 to 99.999 | HCNOx standard deviation (in g/hp-hr) for the required reporting period with DFs applied, as applicable | ,,,,,,, |
| 21 | COMNWDF | N | 3.1 | Range: 0.0 to 999.9 rounded per ASTM-E-29-93a to number of significant digits in std | CO mean (in g/hp-hr) with DFs applied, as applicable, for the required reporting period | (b)(5)(B)(vii) |
| 22 | COSDWDF | N | 3.2 | Range: 0.0 to 999.99 | required reporting period | (b)(5)(B)(vii) |
| 23 | PMMNWDF | N | 1.2 | Range: 0.0000 to 9.99 | PM mean (in g/hp-hr) with DFs applied, as applicable, for the required reporting period | (b)(5)(B)(vii) |
| 24 | PMSDWDF | N | 1.4 | Range: 0.0000 to 9.9999 | PM standard deviation (in g/hp-hr) with DFs applied, as applicable, for the required reporting period | (b)(5)(B)(vii) |
| 25 | CS_HCNOX | N | 3.3 | Range: 000.000 to 999.999 | Cum sum statistic for HCNOx from final audit test for the quarter using engine test results with DFs applied, as applicable | (c)(4)(E)(vii), (c)(3)(A)(i) |
| 26 | HCNOX_H | N | 3.2 | Range: 0.00 to 999.99 H Limit = 5 x (standard deviation) | Action Limit for HCNOx from final engine test for the quarter | (c)(4)(E)(vii), (c)(3)(A) |
| 27 | CS_CO | N | 3.3 | Range: 0.000 to 999.999 | Cum sum statistic for CO from final audit test for the quarter using engine test results with DFs applied, as applicable | (c)(4)(E)(vii), (c)(3)(A)(i) |
| 28 | CO_H | N | 3.2 | Range: 0.00 to 999.99 H Limit = 5 x (standard deviation) | Action Limit for CO from final engine test for the quarter | (c)(4)(E)(vii), (c)(3)(A) |
| 29 | CS_PM | N | 3.3 | Range: 0.000 to 999.999 | Cum sum statistic for PM from final audit test for the quarter using engine test results with DFs applied, as applicable | (c)(4)(E)(vii), (c)(3)(A)(i) |
| 30 | PM_H | N | 3.2 | Range: 0.00 to 999.99 H Limit = 5 x (standard deviation) | Action Limit for PM from final engine test for the quarter | (c)(4)(E)(vii), (c)(3)(A) |
| 31 | COMPLY | С | 6 | 1%FAIL = 1%: minimum of 10 tests averaged has failed CSFAIL = Cumsum: 2 sequential action limit exceedances PASS = Compliant | Indicate if engine family is in compliance or is noncompliant as a result of testing this quarter | (c)(4)(E)(vii) |
| 32 | SMPPRD | С | 1 | Y = Yes, sampling plan has changed N = No, sampling plan has not changed the Colifornia Code of Populations Title 12 Sec | Indicate if the process to obtain engines on a random basis has changed | (c)(4)(E)(iv) |

^{*} Reference to Subsections of the California Code of Regulations, Title 13, Section 2407