| California Environmental Protection Agency **AIR RESOURCES BOARD** | GENERAL MOTORS CORPORATION | EXECUTIVE ORDER A-006-1470 New Passenger Cars, Light-Duty Trucks and Medium-Duty Vehicles |
|---|---|---|

Pursuant to the authority vested in the Air Resources Board by Health and Safety Code (HSC), Div. 26, Part 5, Chap. 2; and pursuant to the authority vested in the undersigned by HSC Sections 39515-39516 and Executive Order G-02-003;

**IT IS ORDERED AND RESOLVED:** That the following exhaust and evaporative emission control systems produced by the manufacturer are certified as described below. Production vehicles shall be in all material respects the same as those for which certification is granted.

| MODEL YEAR | TEST GROUP | VEHICLE TYPE (PC=passenger car; LDT=light-duty truck; MDV=medium-duty vehicle; LVW=loaded vehicle weight; GVW=gross VW) | EXHAUST EMISSION STANDARD CATEGORY (LEV=low emission vehicle; TLEV=transitional LEV; ULEV=ultra LEV; SULEV=super ULEV) | EXHAUST & ORVR / EVAPORATIVE USEFUL LIFE (UL) (miles) | FUEL TYPE (CNG/LNG=compressed/liquefied natural gas; LPG=liquefied petroleum gas) |
|---|---|---|---|---|---|
| 2008 | 8GMXT05.3381 | LDT: >6000# GVW | USEPA Bin 4 Counted as ARB "LEV II" ULEV | 120K / 150K | Flexible Fuel: Ethanol (E85) / Gasoline (Tier 2 Unleaded) |

| No. | EVAPORATIVE FAMILY (EVAF) | No. | SPECIAL FEATURES & EMISSION CONTROL SYSTEMS (ECS) | * = not applicable |
|---|---|---|---|---|
| 1 | 8GMXR0176820 | 1 | SFI, 2TWC, 2HO2S(2), OBD (F) | |
| 2 | 8GMXR0223840 | 2 | * | |
| 3 | * | 3 | * | |

OC/TWC=oxidizing/3-way cat. ADSTWC=adsorbing TWC WU= warm-up cat. O2S/HO2S=oxygen sensor/heated O2S AFS/HAFS=air-fuel ratio sensor/heated AFS EGR=exhaust gas recirculation AIR/PAIR=secondary air injection/pulsed AIR MFI/SFI= multiport fuel injection/sequential MFI TBI= throttle body injection TC/SC=turbo /super charger CAC=charge air cooler OBD (F) / (P)=full /partial on-board diagnostic prefix 2=parallel (2) suffix=series

| EVAF No. | ECS No. | ENGINE SIZE (L) | VEHICLE MAKES & MODELS | VEHICLES SUBJECT TO SFTP STANDARDS ARE UNDERLINED | ABBREVIATIONS: |
|---|---|---|---|---|---|
| 1 | 1 | 5.3 | Chevrolet: C1500 Tahoe 2WD, K1500 Tahoe 4WD, C15 Silverado 2WD, K15 Silverado 4WD; GMC: C1500 Yukon 2WD, K1500 Yukon 4WD, C15 Sierra 2WD, K15 Sierra 4WD | | |
| 2 | 1 | 5.3 | Chevrolet: K1500 Avalanche 4WD, K1500 Suburban 4WD, C1500 Avalanche 2WD, C1500 Suburban 2WD, C15 Silverado 2WD, K15 Silverado 4WD | | |
| 2 | 1 | 5.3 | GMC: K1500 Yukon XL 4WD, C1500 Yukon XL 2WD, C15 Sierra 2WD, K15 Sierra 4WD | | |

The exhaust and evaporative emission standards (STD), as requested by the manufacturer, and certification emission levels (CERT) for the listed vehicles are as follows (compliance with the 50 °F testing requirement (for TLEV, LEV, ULEV, SULEV) may have been met based on the manufacturer's submitted compliance plan in lieu of testing). Any debit in the manufacturer's "NMOG Fleet Average" (PC and LDT) or "Vehicle Equivalent Credit" (MDV) compliance plan shall be equalized as required. (For bi-, dual- or flexible-fueled vehicles, the STD and CERT in parentheses are those applicable to testing on gasoline test fuel.)

| NMOG FLEET AVERAGE [g/mi] CERT | STD | NMOG @ RAF = * (*); CH4 RAF = * | | NMOG or NMHC STD [g/mi] |
|---|---|---|---|---|
| 0.047 | 0.050 | NMOG CERT [g/mi] | NMHC CERT [g/mi] | |
| [redacted] @ 50K | | * | * | * |
| [redacted] @ UL | | 0.062 (0.065) | * | 0.070 (0.070) |
| [redacted] @ 50°F & 4K | | * | * | * |

CH4=methane NMOG=non-CH4 organic gases NMHC=non-CH4 hydrocarbons CO=carbon monoxide NOx=oxides of nitrogen HCHO=formaldehyde PM=particulate matter RAF=reactivity adjustment factor 2/3 D [g/test]=2/3 day diurnal+hot-soak RL [g/mi]=running loss ORVR [g/gallon dispensed]=on-board refueling vapor recovery g=gram mg=milligram mi=mile K=1000 miles F=degrees Fahrenheit SFTP=supplemental federal test procedure

| | CO [g/mi] CERT | CO [g/mi] STD | NOx [g/mi] CERT | NOx [g/mi] STD | HCHO [mg/mi] CERT | HCHO [mg/mi] STD | PM [g/mi] CERT | PM [g/mi] STD | Hwy NOx [g/mi] CERT | Hwy NOx [g/mi] STD |
|---|---|---|---|---|---|---|---|---|---|---|
| @ 50K | * | * | * | * | * | * | * | * | * | * |
| @ UL | 1.0 (0.9) | 2.1 (2.1) | 0.04 (0.02) | 0.04 (0.04) | 1 (*) | 11 (11) | * | 0.01 (0.01) | 0.01 (0.01) | 0.05 (0.05) |
| @ 50°F & 4K | * | * | * | * | * | * | * | * | * | * |

| CO [g/mi] @ 20°F & 50K | | SFTP 1 = @ 4K (SULEV, ULEV, LEV) or 50K (Tier 1, TLEV) SFTP 2 = @ UL (Tier 1, TLEV) | | NMHC+NOx [g/mi] (composite) CERT | NMHC+NOx [g/mi] (composite) STD | CO [g/mi] (composite) CERT | CO [g/mi] (composite) STD | NMHC+NOx [g/mi] [US06] CERT | NMHC+NOx [g/mi] [US06] STD | CO [g/mi] [US06] CERT | CO [g/mi] [US06] STD | NMHC+NOx [g/mi] [SC03] CERT | NMHC+NOx [g/mi] [SC03] STD | CO [g/mi] [SC03] CERT | CO [g/mi] [SC03] STD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CERT | * (2.1) | [redacted] | @ 4K | * | * | * | * | * (0.1) | * (0.4) | * (7.0) | * (10.5) | * (0.04) | * (0.31) | * (1.0) | * (3.5) |
| STD | * (12.5) | | @ UL | * (0.08) | * (0.97) | * | * | * | * | * (7.0) | * (16.9) | * | * | * (1.1) | * (5.6) |

| @ UL | EVAPORATIVE FAMILY 1 3-D | 2-D | RL | ORVR | EVAPORATIVE FAMILY 2 3-D | 2-D | RL | ORVR | EVAPORATIVE FAMILY 3 3-D | 2-D | RL | ORVR | EVAPORATIVE FAMILY 4 3-D | 2-D | RL | ORVR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CERT | 0.55 | 0.38 | 0.00 | (0.03) | 0.71 | 0.76 | 0.00 | (0.03) | * | * | * | * | * | * | * | * |
| STD | 0.90 | 1.15 | 0.05 | 0.20 | 0.90 | 1.15 | 0.05 | 0.20 | * | * | * | * | * | * | * | * |

**BE IT FURTHER RESOLVED:** That for the listed vehicle models, the manufacturer has attested to compliance with Title 13, California Code of Regulations, (13 CCR) Sections 1965 [emission control labels], 1968.2 [on-board diagnostic, full or partial compliance], 2035 et seq. [emission control warranty], 2235 [fuel tank fill pipes and openings] (gasoline and alcohol fueled vehicles only), and "High-Altitude Requirements" and "Inspection and Maintenance Emission Standards" (California Exhaust Emission Standards and Test Procedures for 2001 and Subsequent Model PC, LDT and MDV).

**BE IT FURTHER RESOLVED:** That the listed vehicle models are permitted intermediate in-use compliance standards pursuant to Title 40, Code of Federal Regulations (40 CFR), Section 1811-04(p).

**BE IT FURTHER RESOLVED:** That the listed vehicle models are federally certified, and are certified under the provisions of 13 CCR Section 1961(a)(14) and the incorporated test procedures.

Vehicles certified under this Executive Order shall conform to all applicable California emission regulations. The Bureau of Automotive Repair will be notified by copy of this Executive Order.

Executed at El Monte, California on this 28 day of March 2007.

Annette Hebert

**Annette Hebert, Chief**
**Mobile Source Operations Division**