Pursuant to the authority vested in the Air Resources Board by Health and Safety Code Division 26, Part 5, Chapter 2; and pursuant to the authority vested in the undersigned by Health and Safety Code Sections 39515 and 39516 and Executive Order G-14-012;

**IT IS ORDERED AND RESOLVED:** The engine and emission control systems produced by the manufacturer are certified as described below for use in diesel or incomplete medium-duty vehicles with a manufacturer's GVWR from 8501 to 14000 pounds. Production engines shall be in all material respects the same as those for which certification is granted.

| MODEL YEAR | ENGINE FAMILY | EMISSION STD CATEGORY [2] | FUEL TYPE [1] | STANDARDS & TEST PROCEDURE | ENGINE SIZES (L) | ECS & SPECIAL FEATURES [3] | OBD COMPLIANCE |
|---|---|---|---|---|---|---|---|
| 2016 | GFPXH03.0F1A | ULEV | Diesel | Diesel | 3.0 | DDI, TC(2),CAC, ECM, EGR, PTOX, SCR-U, AMOX | OBD($) |

| ENGINE MODELS / CODES (rated power, In hp) | ENGINE (L) | OBD COMPLIANCE |
|---|---|---|
| 4P10 / F1C (161) | 3.0 | OBD($) |

* =not applicable; **GVWR**=gross vehicle weight rating; **13 CCR xyz**=Title 13, California Code of Regulations, Section xyz, **40 CFR 86.abc**=Title 40, Code of Federal Regulations, Section 86.abc; **L**=liter, **hp**=horsepower, **kw**=kilowatt; **(2004may26)**

[1] **CNG/LNG**=compressed/liquefied natural gas; **LPG**=liquefied petroleum gas; **E85**=85% ethanol fuel; **MF**=multi fuel a.k.a **BF**=bi fuel; **DF**=dual fuel, **FF**=flexible fuel;

[2] **SULEV / ULEV / LEV**=super ultra / ultra / low emission vehicle;

[3] **ECS**=emission control system; **TWC/OC**=three-way/oxidizing catalyst; **WU (prefix)** =warm-up catalyst; **DPF**=diesel particulate filter; **HO2S/O2S**=heated/oxygen sensor; **HAFS/AFS**=heated/air-fuel-ratio sensor (a k.a., universal or linear oxygen sensor); **TBI**=throttle body fuel injection; **SFI/MFI**=sequential/multi port fuel injection; **DGI**=direct gasoline injection; **GCARB**=gaseous carburetor; **IDI/DDI**=indirect/direct diesel injection; **TC/SC**=turbo/super charger; **CAC**=charge air cooler; **EGR**=exhaust gas recirculation; **PAIR/AIR**=pulsed/secondary air injection; **SPL**=smoke puff limiter; **OBD(F) / (P) / ($)**=full / partial / partial with a fine / on-board diagnostic; **ECM/PCM**=engine/powertrain control module; **EM**=engine modification; **2 (prefix)**=parallel; **(2) (suffix)**=in series; ; **AMOX**=ammonia oxidation catalyst; **PTOX**=periodic trap oxidizer; **SCR-U / SCR-N**=selective catalytic reduction – urea / -- ammonia.

Following are: 1) the FTP exhaust emission standards or family emission limit(s) as applicable under 13 CCR 1956.8; 2) the SET and NTE limits under the applicable California exhaust emission standards and test procedures for heavy-duty diesel engines and vehicles (Test Procedures); and 3) the corresponding certification levels, in g/bhp-hr, for this engine family. "Diesel" CO, SET and NTE certification compliance may have been demonstrated by the manufacturer as provided under the applicable Test Procedures in lieu of testing. (For dual- and flexible-fueled engines, the CERT values in brackets [ ] are those when tested on conventional test fuel.) [4]

| | NMHC | | NOx | | NMHC+NOx | | CO | | PM | | HCHO | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | FTP | SET | FTP | SET | FTP | SET | FTP | SET | FTP | SET | FTP | SET |
| STD | 0.14 | 0.14 | 0.20 | 0.20 | * | * | 15.5 | 15.5 | 0.01 | 0.01 | 0.050 | 0.050 |
| FEL | * | * | * | * | * | * | * | * | * | * | * | * |
| CERT | 0.004 | 0.000 | 0.16 | 0.06 | * | * | 0.1 | 0.1 | 0.002 | 0.001 | 0.000 | 0.000 |
| NTE | 0.21 | | 0.30 | | * | | 19.4 | | 0.02 | | 0.075 | |

[4] **g/bhp-hr**=grams per brake horsepower-hour; **FTP**=Federal Test Procedure; **SET**=Supplemental Emission Test Cycle; **NTE**=Not-to-Exceed emission limit; **STD**=standard or emission test cap, **FEL**=family emission limit; **CERT**=certification level, **NMHC/HC**=non-methane/hydrocarbon; **NOx**=oxides of nitrogen; **CO**=carbon monoxide, **PM**=particulate matter, **HCHO**=formaldehyde;

**BE IT FURTHER RESOLVED:** The manufacturer has demonstrated compliance with the Greenhouse Gas Emission Standards as specified in Title 13 CCR 1956.8 and the incorporated "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy Duty Diesel-Engines and Vehicles" (HDDE Test Procedures) adopted Dec. 27, 2002, as last amended Sep. 2, 2015 using the 2014 model year National Heavy-Duty Engine and Vehicle Greenhouse Gas Program as specified in Section 1036.108 of the HDDE Test Procedures. For the listed California-only engine family, the manufacturer has submitted the required greenhouse gas information.

| | EPA CERTIFICATE OF CONFORMITY | | PRIMARY INTENDED SERVICE CLASS | |
|---|---|---|---|---|
| | GFPXH03.0F1A-001 | | VOCATIONAL | |
| In g/bhp-hr | $CO_2$ | | $CH_4$ | $N_2O$ |
| | FTP | SET | | |
| STD | 600 | * | 0.10 | 0.10 |
| FCL | 585 | * | * | * |
| FEL | 603 | * | 0.10 | 0.10 |
| CERT | 580 | * | 0.02 | 0.09 |

[4] **g/bhp-hr**=grams per brake horsepower-hour; **FTP**=Federal Test Procedure; **SET**=Supplemental emissions testing; **STD** = standard or emission test cap; **FEL**=family emission limit; **FCL**=family certification level; **CERT**=certification level; **$CO_2$**=carbon dioxide; **$CH_4$**=methane; **$N_2O$**=nitrous oxide; **VOCATIONAL**=vocational engine; **TRACTOR**=tractor engine

**BE IT FURTHER RESOLVED:** Certification to the FEL(s) / FCL(s) listed above, as applicable, is subject to the following terms, limitations and conditions. The FEL(s) / FCL(s) is the emission level declared by the manufacturer and serves in lieu of an emission standard for certification purposes in any averaging, banking, or trading (ABT) programs. It will be used for determining compliance of any engine in this family and compliance with such ABT programs.

**BE IT FURTHER RESOLVED:** The listed engine models have been certified to the optional emission standards and test procedures in 13 CCR 1956.8 applicable to diesel or incomplete medium-duty vehicles with a GVWR from 8501 to 14000 pounds and, therefore, shall be subject to 13 CCR 2139(c) (in-use testing of engines certified for use in diesel or incomplete medium-duty vehicles with a 8501-14000 pound GVWR).

**BE IT FURTHER RESOLVED:** For the listed engine models the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR 1965 (emission control labels), 13 CCR 1968.2 (on-board diagnostic, full or partial compliance), and 13 CCR 2035 et seq. (emission control warranty).

**BE IT FURTHER RESOLVED:** The listed engine models are conditionally certified in accordance with 13 CCR Section 1968.2(k) (deficiency and fines provisions for certification of malfunction and diagnostic system) because the on-board diagnostic II (OBD) system of the listed engine models has been determined to have twenty-four deficiencies. The listed engine models are approved subject to the manufacturer paying a fine of $500 per engine for the third to twenty-fourth deficiencies in the listed engine family that is produced and delivered for sale in California. On a quarterly basis, the manufacturer shall submit to the Air Resources Board reports of the number of engines produced and delivered for sale in California and pay the full fine owed for that quarter pursuant to this conditional certification. Payment shall be made payable to the State Treasurer for deposit in the Air Pollution Control Fund no later than thirty (30) days after the end of each calendar quarter during the 2016 model-year production period. Failure to pay the quarterly fine, in full, in the time provided, may be cause for the Executive Officer to rescind this conditional certification, effective from the start of the quarter in question, in which case all engines covered under this conditional certification for that quarter and all future quarters would be deemed uncertified and subject to a civil penalty of up to $5000 per engine pursuant to HSC Section 43154.

Engines certified under this Executive Order must 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 18th day of November 2016.

Annette Hebert, Chief
Emissions Compliance, Automotive Regulations and Science Division