Pursuant to the authority vested in California Air Resources Board by Sections 43013, 43018, 43101, 43102, 43104 and 43105 of the Health and Safety Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-19-095;

**IT IS ORDERED AND RESOLVED:** That the following compression-ignition engines and emission control systems produced by the manufacturer are certified as described below for use in off-road equipment. Production engines shall be in all material respects the same as those for which certification is granted.

| MODEL YEAR | ENGINE FAMILY | DISPLACEMENT (liters) | FUEL TYPE | USEFUL LIFE (hours) |
|---|---|---|---|---|
| 2022 | NVSXL12.8T4F | 12.8 | Diesel | 8,000 |

| SPECIAL FEATURES & EMISSION CONTROL SYSTEMS | TYPICAL EQUIPMENT APPLICATION |
|---|---|
| Electronic Control Module, Electronic Direct Injection Turbocharger, Charge Air Cooler, Exhaust Gas Recirculation, Diesel Oxidation Catalyst, Periodic Trap Oxidizer, Ammonia Oxidation Catalyst Selective Catalytic Reduction – Urea | Loader, Hauler, Excavator, Pipe Layer, Landfill Compactor |

The engine models and codes are attached.

The following are the exhaust certification standards (STD), or family emission limit(s) (FEL) as applicable, and certification levels (CERT) for non-methane hydrocarbon (NMHC), oxides of nitrogen (NOx), or non-methane hydrocarbon plus oxides of nitrogen (NMHC+NOx), carbon monoxide (CO), and particulate matter (PM) in grams per kilowatt-hour (g/kW-hr), and the opacity-of-smoke certification standards and certification levels in percent (%) during acceleration (Accel), lugging (Lug), and the peak value from either mode (Peak) for this engine family (Title 13, California Code of Regulations, (13 CCR) Section 2423):

| RATED POWER CLASS | EMISSION STANDARD CATEGORY | | EXHAUST (g/kw-hr) | | | | | OPACITY (%) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | NMHC | NOx | NMHC+NOx | CO | PM | ACCEL | LUG | PEAK |
| 130 ≤ kW ≤ 560 | Tier 4 Final | **STD** | 0.19 | 0.40 | N/A | 3.5 | 0.02 | N/A | N/A | N/A |
| | | **FEL** | N/A | N/A | N/A | N/A | 0.01 | N/A | N/A | N/A |
| | | **CERT** | 0.08 | 0.17 | -- | 0.1 | 0.004 | -- | -- | -- |

**BE IT FURTHER RESOLVED:** That the family emission limit(s) (FEL) is an emission level declared by the manufacturer for use in any averaging, banking and trading program and in lieu of an emission standard for certification. It serves as the applicable emission standard for determining compliance of any engine within this engine family under 13 CCR Sections 2423 and 2427.

**BE IT FURTHER RESOLVED:** That for the listed engine models, the manufacturer has submitted the information and materials to demonstrate certification compliance with 13 CCR Section 2424 (emission control labels), and 13 CCR Sections 2425 and 2426 (emission control system warranty).

**BE IT FURTHER RESOLVED:** That the listed engine family is conditionally certified pending submission of additional test data to verify compliance with useful-life emission standards. The manufacturer must submit the necessary data by February 28, 2022 to confirm or correct the certification emissions levels on this conditional certification. Failure to submit the necessary data or resolve concerns by the specified date, shall be cause for the Executive Officer to rescind this conditional certification, in which case all engines covered under this conditional certification and introduced into commerce in the State of California shall be deemed uncertified pursuant to Health and Safety Code Section 43153 and subject to civil penalties pursuant to Health and Safety Code Section 43154.

Engines certified under this Executive Order must conform to all applicable California emission regulations.

**This Executive Order is only granted to the engine family and model-year listed above. Engines in this family that are produced for any other model-year are not covered by this Executive Order.**

Executed on this 9th day of January 2022.

Allen Lyons, Chief
Emissions Certification and Compliance Division

**Attachment 1 of 1: Engine Models** **EO #:** U-R-003-0102 **Family:** NVSXL12.8T4F **Attachment Revised:** 12/28/2021

| Model | Code | Trim | Config | Displacement | Displacement - Units | Peak Power | Peak Power - Units | Peak Power - Speed (rpm) | Peak Power - Fueling | Peak Power - Fuel Units | Peak Torque | Peak Torque - Units | Peak Torque - Speed (rpm) | Peak Torque - Fuel | Peak Torque - Fuel Units | OBD | GHG | Special | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| D13J | 13-110 | N/A | I6 | 12.8 | Liters | 350 | kilowatt | 1800 | 72 | kg/hr | 2525 | N-m | 1050 | 347 | mm3/stroke | N/A | N/A | None | Tested Engine |
| D13J | 13-124 | N/A | I6 | 12.8 | Liters | 310 | kilowatt | 1900 | 65 | kg/hr | 2343 | N-m | 1140 | 322 | mm3/stroke | N/A | N/A | None | None |
| D13J | 13-42 | N/A | I6 | 12.8 | Liters | 336 | kilowatt | 1900 | 69 | kg/hr | 2407 | N-m | 1140 | 330 | mm3/stroke | N/A | N/A | None | None |
| D13J | 13-42 | MultiTorque Curve Level 1 | I6 | 12.8 | Liters | 315 | kilowatt | 1900 | 65 | kg/hr | 2340 | N-m | 1140 | 321 | mm3/stroke | N/A | N/A | None | None |
| D13J | 13-50 | N/A | I6 | 12.8 | Liters | 251 | kilowatt | 1900 | 53 | kg/hr | 2276 | N-m | 1100 | 317 | mm3/stroke | N/A | N/A | None | None |
| D13J | 13-50 | MultiTorque Curve Level 1 | I6 | 12.8 | Liters | 251 | kilowatt | 1900 | 53 | kg/hr | 1810 | N-m | 1100 | 250 | mm3/stroke | N/A | N/A | None | None |
| D13J | 13-50 | MultiTorque Curve Level 2 | I6 | 12.8 | Liters | 251 | kilowatt | 1900 | 53 | kg/hr | 1770 | N-m | 1100 | 244 | mm3/stroke | N/A | N/A | None | None |
| D13J | 13-49 | N/A | I6 | 12.8 | Liters | 218 | kilowatt | 1900 | 47 | kg/hr | 2071 | N-m | 1000 | 289 | mm3/stroke | N/A | N/A | None | None |
| D13J | 13-49 | MultiTorque Curve Level 1 | I6 | 12.8 | Liters | 218 | kilowatt | 1900 | 47 | kg/hr | 1620 | N-m | 1000 | 226 | mm3/stroke | N/A | N/A | None | None |
| D13J | 13-49 | MultiTorque Curve Level 2 | I6 | 12.8 | Liters | 218 | kilowatt | 1900 | 47 | kg/hr | 1605 | N-m | 1000 | 224 | mm3/stroke | N/A | N/A | None | None |
| D13J | 13-48 | N/A | I6 | 12.8 | Liters | 199 | kilowatt | 1900 | 43 | kg/hr | 1999 | N-m | 1000 | 282 | mm3/stroke | N/A | N/A | None | None |
| D13J | 13-48 | MultiTorque Curve Level 1 | I6 | 12.8 | Liters | 199 | kilowatt | 1900 | 43 | kg/hr | 1520 | N-m | 1000 | 213 | mm3/stroke | N/A | N/A | None | None |
| D13J | 13-48 | MultiTorque Curve Level 2 | I6 | 12.8 | Liters | 199 | kilowatt | 1900 | 43 | kg/hr | 1435 | N-m | 1100 | 200 | mm3/stroke | N/A | N/A | None | None |
| D13J | 13-63 | N/A | I6 | 12.8 | Liters | 284 | kilowatt | 1800 | 58 | kg/hr | 1928 | N-m | 1350 | 259 | mm3/stroke | N/A | N/A | None | None |
| D13J | 13-62 | N/A | I6 | 12.8 | Liters | 230 | kilowatt | 1700 | 48 | kg/hr | 1692 | N-m | 1275 | 230 | mm3/stroke | N/A | N/A | None | None |
| D13J | 13-139 | N/A | I6 | 12.8 | Liters | 340 | kilowatt | 1600 | 69 | kg/hr | 2200 | N-m | 1300 | 307 | mm3/stroke | N/A | N/A | None | None |