Pursuant to the authority vested in California 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 on-road motor vehicles with a manufacturer's GVWR over 14,000 pounds. Production engines shall be in all material respects the same as those for which certification is granted.

### EXECUTIVE ORDER A-021-0703

**New On-Road Heavy-Duty Engines**

**T=alternative method**

**TRACTOR=tractor engine**

**universal or linear oxygen sensor**

**HIGH EFFICIENCY Diesel**

**INTENDED SERVICE CLASS**

**ECS & SPECIAL FEATURES**

**DIAGNOSTIC**

<table>
<thead>
<tr>
<th>MODEL YEAR</th>
<th>ENGINE FAMILY</th>
<th>ENGINE SIZES (L)</th>
<th>FUEL TYPE 1</th>
<th>STANDARDS &amp; TEST PROCEDURE</th>
<th>INTENDED SERVICE CLASS</th>
<th>ECS &amp; SPECIAL FEATURES</th>
<th>DIAGNOSTIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>KCEXH0729XBC</td>
<td>11.9</td>
<td>CNG/LNG</td>
<td>Diesel</td>
<td>HDD-UB</td>
<td>N/A</td>
<td>OBD($)</td>
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</tbody>
</table>

**PRIMARY ENGINE'S IDLE EMISSIONS CONTROL 5**

**ADDITIONAL IDLE EMISSIONS CONTROL 5**

**ENGINE (L)**

<table>
<thead>
<tr>
<th>ENGINE MODELS / CODES (rated power, in hp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
</tr>
</tbody>
</table>

See attachment for engine models and ratings.

- **Not applicable:** HWG=gross vehicle weight rating; 13 CCR xyz=Title 13, California Code of Regulations, Section xyz; 40 CFR xyz=Title 40, Code of Federal Regulations, Section xyz; L=liter; hp=horsepower; kw=kilowatt; hr=hour.
- **1** CNG/LNG=compressed/liquefied natural gas; LPG=liquefied petroleum gas; E85=85% ethanol fuel; MF=multi fuel a.k.a. BF=bio fuel; DF=dual fuel; FF=flexible fuel.
- **2** HDD=heavy duty diesel; UB=urban bus; OTC=heavy duty Ottc; S/O=selective catalytic reduction; Urea=urea.
- **3** Emissions control system; T/W/D/O=Cooled exhaust gas recirculation; NAC=NOx adsorption catalyst; SCR=selective catalytic reduction; DPF=diesel particulate filter; FTP=Fed eral Test Procedure; TC/SC=Turbo/SC; FTL=fuel injection; BMF=sequential/multi port fuel injection; DGI=Direct gasoline injection; GCARB=Gasoline carburetor; DPF=diesel particulate filter; PM=Particulate matter; CH4=CH4; CO2=CO2; HCHO=Formaldehyde; TWC/OC=Three way catalytic reduction; NAC=NOx adsorption catalyst; SCR-U=Selective catalytic reduction - urea; SCR-N=Selective catalytic reduction - ammonia; WU=Engine modification.
- **4** EMD=Engine Manufacturer diagnostic system.
- **5** NMHC=Non-methane hydrocarbons; CO2=Carbon dioxide; CO=Carbon monoxide; NOx=Oxides of nitrogen; PM=Particulate matter; HCHO=Formaldehyde; CO2=CO2; NOx=Oxides of nitrogen.
- **6** NMHC=Non-methane hydrocarbons; CO2=Carbon dioxide; CO=Carbon monoxide; NOx=Oxides of nitrogen; PM=Particulate matter; HCHO=Formaldehyde.

**ENGINE FAMILY**

<table>
<thead>
<tr>
<th>ENGINE FAMILY</th>
<th>MODEL ENGINE FAMILY</th>
<th>ENGINE MODELS / CODES (rated power, in hp)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
<td>N/A</td>
</tr>
</tbody>
</table>

See attachment for engine models and ratings.

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, for this engine family.

**Diesel**

**CO, SET and NTE**

Certification compliance may be demonstrated by the manufacturer as described below for use in on-road motor vehicles with a manufacturer's GVWR over 14,000 pounds. Production engines shall be in all material respects the same as those for which certification is granted.

**BE IT FURTHER RESOLVED: That the listed engine family is certified to the Optional Low NOx Emission Standards as specified in 13 CCR 1956.8(a)(2)(A) and Section 11.8.7 of the incorporated "California Exhaust Emission Standards and Test Procedures for 2004 and Subsequent Model Heavy Duty Diesel-Engines and Vehicles" adopted December 12, 2002, as last amended September 1, 2017.**

**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 December 12, 2002, as last amended September 1, 2017 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. The manufacturer has submitted the required information and therefore has met the criteria necessary to receive a California Executive Order based on the Environmental Protection Agency's Certificate of Conformity for the above listed engine family.**

### EPA CERTIFICATE OF CONFORMITY

<table>
<thead>
<tr>
<th>KCEXH0729XBC-005</th>
<th>PRIMARY INTENDED SERVICE CLASS</th>
<th>TRACTOR / VOCATIONAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CO2</td>
<td>CH4</td>
</tr>
<tr>
<td>STD</td>
<td>555</td>
<td>460</td>
</tr>
<tr>
<td>FCL</td>
<td>502</td>
<td>429</td>
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<tr>
<td>FEL</td>
<td>517</td>
<td>442</td>
</tr>
<tr>
<td>CERT</td>
<td>502</td>
<td>429</td>
</tr>
</tbody>
</table>

**in g/bhp-hr:** FTP=Federal Test Procedure; SET=Supplemental emissions testing; STD=Standard or emission test cap; FEL=family emission limit; FCL=family certification level; CO2=Carbon dioxide; CH4=Methane; N2O=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: For the listed engine models the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR 1965 (emission control labels), 13 CCR 1971 (engine manufacturer diagnostic) 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 1971.1(k) (deficiency and fines provisions for certification of malfunction and diagnostic system) because the heavy-duty on-board diagnostic (HD OBD) system of the listed engine models has been determined to have three deficiencies. The listed engine models are approved subject to the manufacturer paying a fine of $25 per engine for the third deficiency in the listed engine family that is produced and delivered for sale in California. On a quarterly basis, the manufacturer shall submit to the California 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 2019 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 $37,500 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 __13__ day of December 2018.

Annette Hebert, Chief
Emissions Compliance, Automotive Regulations and Science Division
<table>
<thead>
<tr>
<th>Engine Family</th>
<th>Engine Code</th>
<th>1. Engine Model</th>
<th>3. BHP@RPM (SAE Gross)</th>
<th>4. Fuel Rate: mm/stroke @ peak HP (for diesel only)</th>
<th>5. Fuel Rate: (lbs/hr) @ peak HP (for diesels only)</th>
<th>6. Torque @ RPM (SEA Gross)</th>
<th>7. Fuel Rate: mm/stroke @ peak torque</th>
<th>8. Fuel Rate: (lbs/hr) @ peak torque</th>
<th>Emission Control</th>
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<tbody>
<tr>
<td>KCEXH0729XBC</td>
<td>4875,FR20866</td>
<td>ISX12N 400</td>
<td>400@1800</td>
<td>N/A</td>
<td>N/A</td>
<td>1450@1200</td>
<td>N/A</td>
<td>N/A</td>
<td>TBI, TC</td>
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<tr>
<td>KCEXH0729XBC</td>
<td>4875,FR20867</td>
<td>ISX12N 385</td>
<td>385@1700</td>
<td>N/A</td>
<td>N/A</td>
<td>1350@1200</td>
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<td>N/A</td>
<td>TBI, TC</td>
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<tr>
<td>KCEXH0729XBC</td>
<td>4875,FR20868</td>
<td>ISX12N 350</td>
<td>350@1700</td>
<td>N/A</td>
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<td>1350@1200</td>
<td>N/A</td>
<td>N/A</td>
<td>TBI, TC</td>
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<tr>
<td>KCEXH0729XBC</td>
<td>4875,FR20869</td>
<td>ISX12N 350</td>
<td>350@1700</td>
<td>N/A</td>
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<td>1450@1200</td>
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<td>N/A</td>
<td>TBI, TC</td>
</tr>
<tr>
<td>KCEXH0729XBC</td>
<td>4875,FR20870</td>
<td>ISX12N 330</td>
<td>330@1700</td>
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<td>N/A</td>
<td>N/A</td>
<td>TBI, TC</td>
</tr>
<tr>
<td>KCEXH0729XBC</td>
<td>4875,FR20871</td>
<td>ISX12N 320</td>
<td>320@1700</td>
<td>N/A</td>
<td>N/A</td>
<td>1150@1200</td>
<td>N/A</td>
<td>N/A</td>
<td>TBI, TC</td>
</tr>
<tr>
<td>Urban bus</td>
<td></td>
<td></td>
<td></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>TBI, TC</td>
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<tr>
<td>KCEXH0729XBC</td>
<td>4875,FR20872</td>
<td>ISX12N 400CC</td>
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<td>1450@1200</td>
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<td>TBI, TC, H02S</td>
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</table>

Engine Model Summary Template

Engine Family: KCEXH0729XBC

Engine Code: 4875,FR20866, ISX12N 400

BHP: 400@1800

Fuel Rate: N/A

Torque: 1450@1200

Emission Control: H02S, TBI, TC

Engine Family: KCEXH0729XBC

Engine Code: 4875,FR20867, ISX12N 385

BHP: 385@1700

Fuel Rate: N/A

Torque: 1350@1200

Emission Control: H02S, TBI, TC

Engine Family: KCEXH0729XBC

Engine Code: 4875,FR20868, ISX12N 350

BHP: 350@1700

Fuel Rate: N/A

Torque: 1350@1200

Emission Control: H02S, TBI, TC

Engine Family: KCEXH0729XBC

Engine Code: 4875,FR20869, ISX12N 350

BHP: 350@1700

Fuel Rate: N/A

Torque: 1450@1200

Emission Control: H02S, TBI, TC

Engine Family: KCEXH0729XBC

Engine Code: 4875,FR20870, ISX12N 330

BHP: 330@1700

Fuel Rate: N/A

Torque: 1250@1200

Emission Control: H02S, TBI, TC

Engine Family: KCEXH0729XBC

Engine Code: 4875,FR20871, ISX12N 320

BHP: 320@1700

Fuel Rate: N/A

Torque: 1150@1200

Emission Control: H02S, TBI, TC

Engine Family: KCEXH0729XBC

Engine Code: 4875,FR20872, ISX12N 400CC

BHP: 400@1800

Fuel Rate: N/A

Torque: 1450@1200

Emission Control: TBI, TC, CA-C, ECU, EGR, TwC, H02S

Engine Model Summary Template

Engine Family: KCEXH0729XBC

Engine Code: 4875,FR20866, ISX12N 400

BHP: 400@1800

Fuel Rate: N/A

Torque: 1450@1200

Emission Control: H02S, TBI, TC

Engine Family: KCEXH0729XBC

Engine Code: 4875,FR20867, ISX12N 385

BHP: 385@1700

Fuel Rate: N/A

Torque: 1350@1200

Emission Control: H02S, TBI, TC

Engine Family: KCEXH0729XBC

Engine Code: 4875,FR20868, ISX12N 350

BHP: 350@1700

Fuel Rate: N/A

Torque: 1350@1200

Emission Control: H02S, TBI, TC

Engine Family: KCEXH0729XBC

Engine Code: 4875,FR20869, ISX12N 350

BHP: 350@1700

Fuel Rate: N/A

Torque: 1450@1200

Emission Control: H02S, TBI, TC

Engine Family: KCEXH0729XBC

Engine Code: 4875,FR20870, ISX12N 330

BHP: 330@1700

Fuel Rate: N/A

Torque: 1250@1200

Emission Control: H02S, TBI, TC

Engine Family: KCEXH0729XBC

Engine Code: 4875,FR20871, ISX12N 320

BHP: 320@1700

Fuel Rate: N/A

Torque: 1150@1200

Emission Control: H02S, TBI, TC

Engine Family: KCEXH0729XBC

Engine Code: 4875,FR20872, ISX12N 400CC

BHP: 400@1800

Fuel Rate: N/A

Torque: 1450@1200

Emission Control: TBI, TC, CA-C, ECU, EGR, TwC, H02S