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-19-095;

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.

MODEL YEAR	ENGINE FAMILY	ENGINE SIZES (L)	FUEL TYPE [1]	STANDARDS & TEST PROCEDURE	INTENDED SERVICE CLASS [2]	ECS & SPECIAL FEATURES [3]	DIAGNOSTIC [6]
2022	NVPTH12.8CA1	12.8	Diesel	Diesel	HHDD	TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR-U, AMOX	OBD($)

PRIMARY ENGINE'S IDLE EMISSIONS CONTROL [5]	ADDITIONAL IDLE EMISSIONS CONTROL [5]
30g	N/A

ENGINE (L)	ENGINE MODELS / CODES (rated power, in hp)
12.8	See attachment for engine models and ratings

***** =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; **hr**=hour;

[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] **L/M/H HDD**=light/medium/heavy heavy-duty diesel; **UB**=urban bus; **HDO**=heavy duty Otto;

[3] **ECS**=emission control system; **TWC/OC**=three-way/oxidizing catalyst; **NAC**=NOx adsorption catalyst; **SCR-U** / **SCR-N**=selective catalytic reduction – urea / -- ammonia; **WU (prefix)**=warm-up catalyst; **DPF**=diesel particulate filter; **PTOX**=periodic trap oxidizer; **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 / EGR-C**=exhaust gas recirculation / cooled EGR; **PAIR/AIR**=pulsed/secondary air injection; **SPL**=smoke puff limiter; **ECM/PCM**=engine/powertrain control module; **EM**=engine modification; **AMOX**=Ammonia Oxidation Catalyst; **NOXS**=NOx sensor; **2 (prefix)**=parallel; **(2) (suffix)**=in series;

[5] **ESS**=engine shutdown system (per 13 CCR 1956.8(a)(6)(A)(1); **30g**=30 g/hr NOx (per 13 CCR 1956.8(a)(6)(C); **APS** =internal combustion auxiliary power system**; ALT**=alternative method (per 13 CCR 1956.8(a)(6)(D); **Exempt**=exempted per 13 CCR 1956.8(a)(6)(B) or for CNG/LNG fuel systems; **N/A**=not applicable (e.g., Otto engines and vehicles);

[6] **EMD**=engine manufacturer diagnostic system (13 CCR 1971); OBD**(F) / (P) / ($)**=full / partial / partial with a fine / on-board diagnostic;);

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 have been demonstrated by the manufacturer as provided under the applicable Test Procedures in lieu of testing. (For flexible- and dual-fueled engines, the CERT values in brackets [ ] are those when tested on conventional test fuel. For multi-fueled engines, the STD and CERT values for default operation permitted in 13 CCR 1956.8 are in parentheses.). [4]

in	NMHC		NOx		NMHC+NOx		CO		PM		HCHO	
g/bhp-hr	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	*	*
CERT	0.003	0.001	0.07	0.04	*	*	0.04	0.00	0.000	0.000	*	*
NTE	0.21		0.30		*		19.4		0.02		*	

[4] **g/bhp-hr**=grams per brake horsepower-hour; **FTP**=Federal Test Procedure; **SET**=Supplemental emissions testing; **NTE**=Not-to-Exceed; **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 December 12, 2002, as last amended April 18, 2019.

	PRIMARY INTENDED SERVICE CLASS: Tractor and Vocational			
In	CO_2		CH_4	N_2O
g/bhp-hr	FTP	SET		
STD	513	447	0.10	0.10
FCL	497	457	*	*
FEL	512	471	0.10	0.10
CERT	491	457	0.02	0.06

[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: For the listed engine models the manufacturer has submitted the materials to demonstrate certification compliance with 13 CCR 1965 (emission control labels), 13 CCR 1971.1 (on-board diagnostic, full or partial compliance) and 13 CCR 2035 et seq. (emission control warranty).

BE IT FURTHER RESOLVED: Except in vehicle applications exempted per 13 CCR 1956.8(a)(6)(B), engines in this engine family certified under 13 CCR 1956.8(a)(6)(C) [30 g/hr NOx] and section 35.B.4 of the incorporated "California Exhaust Emissions 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 April 18, 2019, shall be provided with an approved "Certified Clean Idle" label that shall be affixed to the vehicle into which the engine is installed.

BE IT FURTHER RESOLVED: The listed engine models is 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 has been determined to have three deficiencies, and therefore is 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 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 2022 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 $40,725 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 on this 6th day of February 2022.

Allen Lyons, Chief
Emissions Certification and Compliance Division

Attachment: Engine Models **EO #:** A-242-0190 **Family:** NVPTH12.8CA1 **Attachment Last 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
D13N - 500	VET_XE		L6	12.8	Liters	500	horsepower	1700	162.0	lb/hr	1850	lb-ft	1150	154.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
D13N - 500	SE		L6	12.8	Liters	500	horsepower	1700	162.0	lb/hr	1850	lb-ft	1150	154.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
D13N - 500	F		L6	12.8	Liters	500	horsepower	1700	162.0	lb/hr	1850	lb-ft	1150	154.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
D13N - 455	VET_XE		L6	12.8	Liters	455	horsepower	1700	149.0	lb/hr	1850	lb-ft	1150	143.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
D13N - 455	V		L6	12.8	Liters	455	horsepower	1700	149.0	lb/hr	1750	lb-ft	1050	146.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
D13N - 455	F		L6	12.8	Liters	455	horsepower	1700	149.0	lb/hr	1750	lb-ft	1050	146.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
D13N - 435	V		L6	12.8	Liters	435	horsepower	1700	147.0	lb/hr	1650	lb-ft	1050	141.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
D13N - 435	VBC V		L6	12.8	Liters	435	horsepower	1700	147.0	lb/hr	1650	lb-ft	1050	141.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
D13N - 425	VET_XE		L6	12.8	Liters	425	horsepower	1700	146.0	lb/hr	1750	lb-ft	1050	136.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
D13N - 425	VBC VET_XE		L6	12.8	Liters	425	horsepower	1700	146.0	lb/hr	1750	lb-ft	1050	136.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
D13N - 425	V		L6	12.8	Liters	425	horsepower	1700	145.0	lb/hr	1550	lb-ft	1050	132.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
D13N - 405	VDT		L6	12.8	Liters	405	horsepower	1700	137.0	lb/hr	1650	lb-ft	1050	130.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
D13N - 405	V		L6	12.8	Liters	405	horsepower	1700	134.0	lb/hr	1450	lb-ft	1000	126.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
D13N - 500P	VET_XE		L6	12.8	Liters	500	horsepower	1700	162.0	lb/hr	1850	lb-ft	1150	154.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
D13N - 435P	V		L6	12.8	Liters	435	horsepower	1700	147.0	lb/hr	1650	lb-ft	1050	141.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
MP8 - 505E	VET_XE		L6	12.8	Liters	505	horsepower	1700	162.0	lb/hr	1860	lb-ft	1150	154.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
MP8 - 445E	VET_XE		L6	12.8	Liters	445	horsepower	1700	149.0	lb/hr	1860	lb-ft	1150	143.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
MP8 - 415E	VDT		L6	12.8	Liters	415	horsepower	1700	137.0	lb/hr	1660	lb-ft	1100	130.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
MP8 - 505C	VET_XE		L6	12.8	Liters	505	horsepower	1700	162.0	lb/hr	1860	lb-ft	1150	154.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
MP8 - 445C	VET_XE		L6	12.8	Liters	445	horsepower	1700	149.0	lb/hr	1860	lb-ft	1100	143.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
MP8 - 415C	VDT		L6	12.8	Liters	415	horsepower	1700	137.0	lb/hr	1660	lb-ft	1100	130.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
MP8 - 505C (LT)	F		L6	12.8	Liters	500	horsepower	1700	162.0	lb/hr	1850	lb-ft	1150	154.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
MP8 - 455C (LT)	F		L6	12.8	Liters	455	horsepower	1700	149.0	lb/hr	1750	lb-ft	1050	146.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
MP8 - 505C+	SE		L6	12.8	Liters	500	horsepower	1700	162.0	lb/hr	1850	lb-ft	1150	154.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX
MP8 - 505E+	SE		L6	12.8	Liters	500	horsepower	1700	162.0	lb/hr	1850	lb-ft	1150	154.0	lb/hr	Partial with Fines			TC, CAC, EGR, DDI, ECM, DOC, PTOX, SCR, AMOX