

Pursuant to the authority vested in the 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 diesel or incomplete medium-duty vehicles with a manufacturer's GVWR from 10,001 to 14,000 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	
2022	NR1IE07.3BWU	ULEV	LPG	Otto	7.3	TWC, HO2S, SFI, 2WR-HO2S	OBD(P)	
ENGINE MODELS / CODES (rated power, in hp)							ENGINE (L)	OBD COMPLIANCE
See Attachment							7.3	OBD(P)
*							*	*

* =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;
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; **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); **WR-HO2S**=wide range oxygen sensor; **TBI**=throttle body fuel injection; **SFI/MFI**=sequential/multi port fuel injection; **DGI**=direct gasoline injection; **GCARB**=gaseous carburetor; **IDDI/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;

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	*	0.20	*	*	*	14.4	*	0.01	*	0.01	*
CERT	0.10	*	0.03	*	*	*	5.3	*	0.001	*	0.000	*
NTE	*		*		*		*		*		*	

⁴ **g/bhp-hr**=grams per brake horsepower-hour; **FTP**=Federal Test Procedure; **SET**=supplemental emissions testing; **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; (rev: 2014-01-03)

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 Otto Cycle Engines and Vehicles" (HDOE Test Procedures) adopted December 27, 2000, as last amended December 19, 2018 using the alternate emission standards as specified in Section 1036.5(e) of the HDOE test procedures.

PRIMARY INTENDED SERVICE CLASS: Vocational				
In g/bhp-hr	CO ₂		CH ₄	N ₂ O
	FTP	SET		
STD	627	*	0.10	0.10
FCL	627	*	*	*
FEL	646	*	*	*
CERT	543	*	0.04	0.02

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; **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: 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 10,001 to 14,000 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 10,001-14,000 pounds 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).

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 23rd day of May 2022.



Allen Lyons, Chief
Emissions Certification and Compliance Division

Attachment: Engine Models**EO #:** A-344-0145**Family:** NRIIE07.3BWU**Attachment Last Revised:** 4/18/2022

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 Units	OBD	GHG	Special	Notes	
E-Series	NNE31F HR5	N/A	V8	7.3	Liters	325	horsepower	3750			450	lb-ft	3750	111.3	mm3/stroke		Vocatio nal	N/A	TWC, HO2S, SFI, 2WR- HO2S
E-Series	NNE31F VR5	N/A	V8	7.3	Liters	325	horsepower	3750			450	lb-ft	3750	111.3	mm3/stroke		Vocatio nal	N/A	TWC, HO2S, SFI, 2WR- HO2S
E-Series	NNE31F 2R5	N/A	V8	7.3	Liters	325	horsepower	3750			450	lb-ft	3750	111.3	mm3/stroke		Vocatio nal	N/A	TWC, HO2S, SFI, 2WR- HO2S
E-Series	NNE31R HR5	N/A	V8	7.3	Liters	300	horsepower	3750			425	lb-ft	3250	91.1	mm3/stroke		Vocatio nal	N/A	TWC, HO2S, SFI, 2WR- HO2S
E-Series	NNE31R VR5	N/A	V8	7.3	Liters	300	horsepower	3750			425	lb-ft	3250	91.1	mm3/stroke		Vocatio nal	N/A	TWC, HO2S, SFI, 2WR- HO2S
E-Series	NNE31R 2R5	N/A	V8	7.3	Liters	300	horsepower	3750			425	lb-ft	3250	91.1	mm3/stroke		Vocatio nal	N/A	TWC, HO2S, SFI, 2WR- HO2S