

UPDATED INFORMATIVE DIGEST

Sections Affected: Chapter 9, Off-Road Vehicles and Engines Pollution Control Devices; Article 1, Utility and Lawn and Garden Engines; Section 2403, Exhaust Emission Standards and Test Procedures and the incorporated "California Exhaust Emission Standards and Test Procedures for 1995 and Later Utility and Lawn and Garden Equipment Engines".

Background. The Air Resources Board ("ARB") was granted the authority to regulate off-road mobile sources of emissions in the California Clean Air Act of 1988 as codified in the Health and Safety Code Sections 43013 and 43018. Included in the off-road category are construction and farm equipment, marine vessels, locomotives, utility engines, off-road motorcycles, and off-highway vehicles.

The utility and lawn and garden equipment engines (utility engines) regulations were originally approved by ARB on December 14, 1990, and were formally adopted on March 20, 1992. The utility engine regulations include exhaust emission standards, and provisions for emission test procedures, engine label requirements, warranty, and compliance programs. Among other things, the regulations as initially adopted established a carbon monoxide (CO) emission standard of 300 grams per brake horsepower-hour (g/bhp-hr) for Class I and II engines. ARB requested and received authorization to adopt and enforce the utility regulations pursuant to section 209(e) of the Federal Clean Air Act.

Regulatory Action. On or about July 26, 1995, the Briggs & Stratton Corporation, petitioned ARB to amend the 300 g/bhp-hr CO standard in the Class I and II categories to 350 g/bhp-hr. In the petition, the company contended that the amendment was necessary because the CO standard was not technologically feasible for the engines in Class I and II engine families. Furthermore, if the CO standard were not changed, Briggs and Stratton would not risk certifying their high volume, low cost lawnmower engine models in California which would operate too closely to the acceptable performance limit when calibrated to meet the 300 g/bhp-hr CO standard. Briggs and Stratton asserted that a significant amount of warranty claims to replace poorly operating new lawnmower engines would have resulted if these low cost, high volume engine models were forced to meet the 300 g/bhp-hr CO standard. Therefore, a number of California businesses would have been adversely affected by the unavailability of a full range of utility engines.

While staff did not agree that the 300 g/bhp-hr CO standard was technically infeasible, it did concur that warranty claims resulting from poorly operating new lawnmower engines operating too closely to the acceptable performance limit may have had a significant economic impact on the manufacturer. The lack of available lawnmower engines may have had a negative impact on many California small businesses such as landscaping and garden care businesses. Consequently, staff proposed that the Class I and II utility engine CO standard be amended from 300 g/bhp-hr to 350 g/bhp-hr.

On January 25, 1996, the Board adopted the amendment to relax the 300 g/bhp-hr CO standard for Class I and II utility engines to 350 g/bhp-hr. The emission standards for utility engines are as follows:

Exhaust Emission Standards
(grams per brake horsepower-hour)

Calendar Year	Engine Class (1)	Hydro-carbon plus oxides of nitrogen (2)	Hydro-carbon (2)	Carbon monoxide	Oxides of nitrogen	Particulate
1995	I	12.0	-	300	-	0.9 (3)
	II	10.0	-	300	-	0.9 (3)
	III (4)	-	220	600	4.0	-
	IV (4)	-	180	600	4.0	-
	V (4)	-	120	300	4.0	-
1996 to 1998	I	12.0	-	350	-	0.9 (3)
	II	10.0	-	350	-	0.9 (3)
	III (4)	-	220	600	4.0	-
	IV (4)	-	180	600	4.0	-
	V (4)	-	120	300	4.0	-
1999 and subsequent	I, II	3.2	-	100	-	0.25 (5)
	III, IV, V (4)	-	50	130	4.0	0.25 (5)

(1) "Class I" means utility and lawn and garden equipment engines less than 225 cc in displacement.

"Class II" means utility and lawn and garden equipment engines greater than or equal to 225 cc in displacement.

"Class III" means hand-held utility and lawn and garden equipment engines less than 20 cc in displacement.

"Class IV" means hand-held utility and lawn and garden equipment engines 20 cc to less than 50 cc in displacement.

"Class V" means hand-held utility and lawn and garden equipment engines greater than or equal to 50 cc in displacement.

- (2) "The Executive Officer may allow gaseous-fueled (i.e., propane, natural gas) engine families, that satisfy the requirements of Section 20 of Part I, to certify to either the hydrocarbon plus oxides of nitrogen or hydrocarbon emission standard, as applicable, on the basis of the non-methane hydrocarbon (NMHC) portion of the total hydrocarbon emissions.
- (3) Applicable to all diesel-cycle engines.
- (4) These standards may be used for engines that meet the requirements of (i) and (ii) below, and for two-stroke engines that power only snow throwers.
 - (i) The engine must be used in a hand-held piece of equipment. To be classified as a hand-held piece of equipment, the equipment must require its full weight to be supported by the operator in the performance of its requisite function.
 - (ii) The engine and equipment must require multi-positional characteristics for use (e.g., it must be capable of operating in any position, upside down, or sideways as required to complete the job).
- (5) Applicable to all diesel-cycle engines, and all two-stroke engines.