

ARB Adopts Federal Standards Applicable to Off-Road Diesel Engines -- On January 28, 2000, California's Air Resources Board adopted the federal Tier 2 and Tier 3 standards applicable to diesel-powered off-road (nonroad) engines. The standards are shown in Table 1. The federal standards, adopted in October 1998, and the proposed ARB standards are based on an August 1996 Statement of Principals (SOP) signed by the manufacturers of off-road diesel engines, the U.S. EPA, and ARB. The standards are not expected to require the use of exhaust control technology.

ARB also adopted the federal voluntary "Blue Sky Series" standards adopted by the U.S. EPA. These standards are applicable through the 2004 model year and are based on the Tier 3 standards, where applicable, and a 40 percent reduction from Tier 2 levels for PM standards where no Tier 3 PM standard has been established. At the hearing, several Board members indicated that further emission reductions from off-road engines will be needed to help California meet its air quality objectives.

Table 1
Proposed California Emission Standards
for Off-Road Compression-Ignition Engines^a
(grams per kilowatt-hour)

Maximum Rated Power (kW)	Tier	Model Year	NOx	HC	NMHC+NOx ^e	CO	PM
KW<8 ^b	Tier 1	2000-2004	—	—	10.5	8.0	1.0
	Tier 2	2005 and later	—	—	7.5	8.0	0.80
8≤kW<19 ^b	Tier 1	2000-2004	—	—	9.5	6.6	0.80
	Tier 2	2005 and later	—	—	7.5	6.6	0.80
19≤kW<37	Tier 1	2000-2003	—	—	9.5	5.5	0.80
	Tier 2	2004 and later	—	—	7.5	5.5	0.60
37≤kW<75	Tier 1	2000-2003	9.2	—	—	—	—
	Tier 2	2004-2007	—	—	7.5	5.0	0.40
	Tier 3	2008 and later	—	—	4.7	5.0	—
75≤kW<130	Tier 1	2000-2002	9.2	—	—	—	—
	Tier 2	2003-2006	—	—	6.6	5.0	0.30
	Tier 3	2007 and later	—	—	4.0	5.0	—
130≤kW<225	Tier 1 ^c	1996-2002	9.2	1.3	—	11.4	0.54
	Tier 2 ^d	2003-2005	—	—	6.6	3.5	0.20
	Tier 3	2006 and later	—	—	4.0	3.5	—
225≤kW<450	Tier 1 ^c	1996-2000	9.2	1.3	—	11.4	0.54
	Tier 2 ^d	2001-2005	—	—	6.4	3.5	0.20
	Tier 3	2006 and later	—	—	4.0	3.5	—
450≤kW≤560	Tier 1 ^c	1996-2001	9.2	1.3	—	11.4	0.54
	Tier 2 ^d	2002-2005	—	—	6.4	3.5	0.20
	Tier 3	2006 and later	—	—	4.0	3.5	—
kW>560	Tier 1 ^d	2000-2005	9.2	1.3	—	11.4	0.54
	Tier 2	2006 and later	—	—	6.4	3.5	0.20

Notes:

- a. The proposed California standards for engines less than 130 kilowatts (175 horsepower) apply only to non-preempted equipment.
- b. The Tier 1 and Tier 2 emission standards for less than 25 horsepower compression-ignition engines were already adopted in the small off-road engine rulemaking.
- c. The Tier 1 emission standards were already adopted for 1996 and later engines. This proposal will modify the existing standards for 2000 and later engines, replacing them with the noted Tier 2 and Tier 3 standards.
- d. The Tier 1 emission standards were already adopted for 2000 and later engines.
- e. NMHC + NOx = non-methane hydrocarbons plus oxides of nitrogen