(2) For Classes T3, T8, TSS, and TF of rated output equal to or greater than 26.7 kN (6,000 lb) manufactured on or after January 1, 1984:

$SN = 83.6(rO)^{-0.274}$ (rO is in kN) not to exceed a maximum of SN = 50.

(3) For Class TP of rated output equal to or greater than 1,000 kW manufactured on or after January 1, 1984:

$SN = 187(rO)^{-0.168}$ (rO is in kW).

(f) The standards set forth in paragraphs (a), (b), (c), (d), and (e) of this section refer to a composite gaseous emission sample representing the operation cycles and exhaust smoke emission emitted during operation of the engine as specified in the applicable sections of subpart G of this part, and measured and calculated in accordance with the procedures set forth in subpart G.

(g) Where a gaseous emission standard is specified by a formula, calculate and round the standard to three significant figures or to the nearest 0.1 g/kN (for standards at or above 100 g/kN). Where a smoke standard is specified by a formula, calculate and round the standard to the nearest 0.1 SN. Engines comply with an applicable standard if the testing results show that the engine type certificate family's characteristic level does not exceed the numerical level of that standard, as described in § 34.60.

[Doc. No. 25613, 55 FR 32861, Aug. 10, 1990; 55 FR 37287, Sept. 10, 1990, as amended by Amdt. 34–3, 64 FR 5559, Feb. 3, 1999; Amdt. 34–4, 74 FR 19127, Apr. 28, 2009; Amdt. 34–5, 77 FR 76851, Dec. 31, 2012]

§ 34.23 Exhaust Emission Standards for Engines Manufactured on and after July 18, 2012.

The standards of this section apply to aircraft engines manufactured on and after July 18, 2012, unless otherwise exempted or excepted. Where a gaseous emission standard is specified by a formula, calculate and round the standard to three significant figures or to the nearest 0.1 g/kN (for standards at or above 100 g/kN). Where a smoke standard is specified by a formula, calculate and round the standard to the nearest 0.1 SN. Engines comply with an applicable standard if the testing results show that the engine type certificate family's characteristic level does not exceed the numerical level of that standard, as described in § 34.60.

(a) Gaseous exhaust emissions from each new aircraft gas turbine engine shall not exceed:

(1) For Classes TF, T3 and T8 of rated output less than 26.7 kN (6,000 lb) manufactured on and after July 18, 2012:

$SN = 83.6(rO)^{-0.274}$ or 50.0, whichever is smaller

(2) Except as provided in §§ 34.9(b) and 34.21(c), for Classes TF, T3 and T8 engines manufactured on and after July 18, 2012, and for which the first individual production model was manufactured on or before December 31, 2013 (Tier 6):

TIER 6 OXIDES OF NITROGEN EMISSION STANDARDS FOR SUBSONIC ENGINES

Class	Rated pressure ratio—rPR	Rated output rO (kN)	NO_x (g/kN)
TF, T3, T8	rPR ≤ 30	26.7 < rO ≤ 89.0	38.5486 + 1.6823 (rPR) − 0.2453 (rO) − (0.00308 (rPR) (rO)).
		rO > 89.0	16.72 + 1.4080 (rPR).
	30 < rPR < 82.6	26.7 < rO ≤ 89.0	46.1600 + 1.4286 (rPR) − 0.5303 (rO) + (0.00642 (rPR) (rO)).
	rPR ≥ 82.6	rO > 89.0	−1.04 + 2.0 (rPR).
		rO ≥ 26.7	32 + 1.6 (rPR).

(3) Engines exempted from paragraph (a)(2) of this section produced on or before December 31, 2016 must be labeled ''EXEMPT NEW'' in accordance with