

DRAFT TRU & TRU Gen Set Airborne Toxic Control Measure Overview
May 14, 2003

- ❖ **New PM Emission Standards** (not part of ATCM).
 - Applicable to all new TRU engines

Table 1: Tier 4 Nonroad CI Engine Standards (g/hp-hr)

HP Category	Compliance Year						
	2008	2009	2010	2011	2012	2013	2014
<25 hp	0.30 ¹ PM						
≥25 to <75 hp	0.22 PM					0.02 PM 3.5 NMHC+NOx	

- EPA’s proposal includes a special TRU certification test cycle that better represents actual TRU operations (but, would not apply to TRU gen sets)
- ARB adoption tentatively planned for 2004

- ❖ **In-Use TRU and TRU gen set PM Emission Standards & Compliance Schedules**

- Applicable to all TRUs and TRU gen sets operated in California
 - Except “low use” TRUs (infrequent out-of-state carriers and seasonal)
- **In-Use Compliance Schedule**
 - In-use emission category requirements must be met in accordance with the schedules shown below. Once a unit qualifies as “ultra-low emission TRU” (ULETRU), then no further emission reductions are necessary for that unit.

Table 2: In-Use Compliance Dates for <25 HP TRU Engines

MY	In-Use Compliance Year ²													
	'07 ⁴	'08 ³	'09 ⁴	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20
'01 & Prev		L	L	L	L	L	L	L	U	U	U	U	U	U
'02			L	L	L	L	L	L	L	U	U	U	U	U
'03				L/U	L/U	L/U	U	U	U	U	U	U	U	U
'04					L/U	L/U	U	U	U	U	U	U	U	U
'05						L/U	U	U	U	U	U	U	U	U
'06							U	U	U	U	U	U	U	U
'07								U	U	U	U	U	U	U
'08									U	U	U	U	U	U
'09										U	U	U	U	U
'10											U	U	U	U
'11												U	U	U
'12													U	U
'13 ⁵														U

¹ ARB and U.S. EPA will perform a technical review in 2007 to evaluate DOC or filter-based standard for <25 hp category in the 2010 to 2013 timeframe.

² Compliance date is December 31st of the compliance year shown. Black shaded areas are years with no requirements since in-use compliance year precedes model year. Dark shaded areas without letter codes have no requirements, pending in-use compliance date. “L” means must meet LETRU requirements. “U” means must meet ULETRU requirements. “L/U” means LETRU requirements apply unless ULETRU technologies are determined to be both available and cost-effective for a broad spectrum of TRUs at the 2007 & 2009 technology review.

³ For 2001 and previous MYs, fleets may elect to bring these units into compliance with LETRU requirements 1 or 2 years early. Early compliance would qualify these units to delay compliance with ULETRU requirements as many years as early compliance was achieved (e.g. 2 years delay for 2 years early compliance and 1 year delay for 1 year early compliance.)

⁴ ARB technology review in 2007 & 2009 to evaluate availability of Level 3 VDECS and alternative technologies for ULETRU.

⁵ For <25 hp TRUs and TRU gen sets, model years past 2013 would be required to comply with ULETRU PM emission standards by the end of the seventh year after the model year.

Table 3: In-Use Compliance Dates for >25 HP TRU Engines

MY	In-Use Compliance Year ⁶													
	'07 ⁸	'08 ⁷	'09 ⁸	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20
'01 & Prev		L	L	L	L	L	L	L	U	U	U	U	U	U
'02			L	L	L	L	L	L	L	U	U	U	U	U
'03				L/U	L/U	L/U	U	U	U	U	U	U	U	U
'04					L/U	L/U	U	U	U	U	U	U	U	U
'05						L/U	U	U	U	U	U	U	U	U
'06							U	U	U	U	U	U	U	U
'07								U	U	U	U	U	U	U
'08									U	U	U	U	U	U
'09										U	U	U	U	U
'10											U	U	U	U
'11												U	U	U
'12													U	U
'13														

- **In-Use Emission Standards:** In-use TRUs and TRU gen sets would qualify for the following in-use emission categories, depending on engine certification levels or the verification classification level of VDECS used:

Table 4: <25 HP TRU and TRU Gen Sets

In-Use Emission Category	Engine Certification (g/hp-hr)	Level of VDECS Equipped with
Low Emission TRU (LETRU or L)	0.30	Level 1
Ultra-Low Emission TRU (ULETRU or U)	TBD ¹	Level 2 ⁹ or better

Example: A 19 horsepower TRU would qualify as an LETRU if it was equipped with either an engine certified to 0.30 g/hp-hr or it was equipped with a Level 1 verified diesel emission control strategy.

Table 5: >25 HP TRU and TRU Gen Sets

In-Use Emission Category	Engine Certification (g/hp-hr)	Level of VDECS Equipped with
Low Emission TRU (LETRU or L)	0.22	Level 1 or 2 ⁹
Ultra-Low Emission TRU (ULETRU or U)	0.02	Level 3

“Ultra-Low Emission TRU” (ULETRU) also means a TRU using one of the “alternative technologies” on the list (see below).

Example: A 34 horsepower TRU would qualify as an ULETRU if it was equipped with either an engine certified to 0.02 g/hp-hr, equipped with a Level 3 verified diesel emission control strategy, or fueled exclusively with verified alternative diesel fuel.

⁶ Compliance date is December 31st of the compliance year shown. Black shaded areas are years with no requirements since in-use compliance year precedes model year. Dark shaded areas without letter codes have no requirements, pending in-use compliance date. “L” means must meet LETRU requirements. “U” means must meet ULETRU requirements. “L/U” means LETRU requirements apply unless ULETRU technologies are determined to be both available and cost-effective for a broad spectrum of TRUs at the 2009 technology review.

⁷ For 2001 and previous MYs, fleets may elect to bring these units into compliance with LETRU requirements 1 or 2 years early. Early compliance would qualify these units to delay compliance with ULETRU requirements as many years as early compliance was achieved (e.g. 2 years delay for 2 years early compliance and 1 year delay for 1 year early compliance.)

⁸ ARB technology reviews in 2007 & 2009 to evaluate availability of Level 3 VDECS and alternative technologies for ULETRU.

⁹ The highest level VEDECS that has been verified shall be used to meet emission category definition.

- Alternative Technologies - New TRUs and TRU gen sets may be equipped with alternative technologies that could eliminate the need to operate under diesel engine power while at a facility. Examples and limitations follow:
 - TRUs equipped with electric standby.
 - TRUs equipped with cryogenic temperature control systems and hybrid cryogenic temperature control systems.
 - TRUs and TRU gen sets equipped with alternative-fueled engines. Note: Depending on horsepower, these engines may need to meet other emission standards.
 - TRUs and TRU gen set engines fueled exclusively with an alternative diesel-fuel that has been verified as a VDECS, provided it is used in accordance with recordkeeping and requirements to assure exclusive use of such fuel.
 - TRUs powered by fuel cells.
 - Any other system approved by the Executive Officer to not emit diesel PM or increase public health risk while at an affected facility.

- It is our intent to closely monitor in-use emission control technologies for TRUs. If we identify broadly applicable control technologies that are technically feasible and cost-effective, we will modify the in-use standards and compliance schedule to require application of the technology as soon as possible (2 to 3 years implementation time frame).

❖ **Facility Requirements**

- Recordkeeping and reporting requirements starting January 1, 2005. This data will be used to evaluate if a follow-on statewide regulation is necessary to reduce TRU and TRU gen set diesel PM emissions beyond those required by the in-use standards for specific types of facilities.

- Information required follows:
 - Contact information for the facility's responsible official.
 - What type of distribution facility is this? (e.g. grocery distribution, foodservice distribution, meat and poultry distribution, egg distribution, dairy product distribution, produce distribution, beer and beverage distribution, manufactured food distribution, other (specify types of goods that are shipped)).
 - The number of loading dock doors serving refrigerated storage space.
 - The number of square feet of refrigerated storage space.
 - The number of full time equivalent employees working at the facility.
 - The number of TRUs or TRU gen sets under facility control by model year and horsepower category.
 - Do you lease or rent reefer trucks, trailers, containers, or railcars? If so how many?
 - Total annual TRU engine operating hours for all TRUs or TRU gen sets under facility control.
 - The average weekly number of inbound reefer trucks, trailers, containers, and railcars delivering goods to the facility.
 - The average weekly number of outbound reefer trucks, trailers, containers and railcars delivering goods from the facility.
 - An estimate of the average total number of hours per week that outbound TRU or TRU gen set engines operate while at the facility.
 - An estimate of the average total number of hours per week that inbound TRU or TRU gen set engines operate while at the facility.