

**FREQUENTLY ASKED QUESTIONS
AND GUIDELINES
FOR COMPLIANCE WITH THE
TRU ATCM**

FOR

**OPERATORS OF TRUs AND
TRU GENERATOR SETS,
AND FACILITIES WHERE TRUs
OPERATE**

California Environmental Protection Agency



Air Resources Board

**Stationary Source Division
Emissions Assessment Branch**

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**GUIDELINES FOR
In-Use Diesel-Fueled Transport Refrigeration Units (TRU)
and TRU Generator Sets,
and Facilities Where TRUs Operate**

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I. Introduction

This document provides guidance to parties affected by the Transport Refrigeration Unit (TRU) Airborne Toxic Control Measure (ATCM) in plain English in a FAQ (Frequently Asked Questions) format. If this guidance creates conflicts in interpretation, the regulatory language of the TRU ATCM (13 CCR §2477) shall have higher legal authority. This document may be updated from time to time with or without notice.

II. General Overview

At its February 2004 public hearing, the California Air Resources Board (ARB) approved the *Airborne Toxic Control Measure for Diesel-Fueled Transport Refrigeration Units and TRU Generator Sets, and Facilities Where TRUs Operate*. The TRU ATCM is designed to use a phased approach over about 12 years to reduce the diesel particulate matter (PM) emissions from in-use TRU and TRU generator set engines that operate in California. The rule became effective December 10, 2004, and can be found in title 13, California Code of Regulations, section 2477. The rule can be downloaded at: <http://www.arb.ca.gov/regact/trude03/trude03.htm>.

Unless otherwise specified, all references to TRUs include both TRUs and TRU generator sets.

1. Is there a lawsuit to stop implementation and enforcement of this regulation?

No.

2. Has U.S. EPA approved the California Air Resources Board's waiver application?

Yes. U.S. EPA approved the waiver application on January 16, 2009, and has authorized ARB to enforce the TRU ATCM.

3. Why is diesel PM of concern?

In 1998, the Board identified diesel PM as a toxic air contaminant (TAC). Diesel exhaust is a complex mixture of thousands of gases and fine particles that contains more than 40 identified TACs. These include many known or suspected cancer-causing substances, such as benzene, arsenic and formaldehyde. Because of the amount of emissions to California's air and its potency, diesel PM is the number one contributor to the adverse health impacts of TACs known today. Numerous studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

4. What is the definition of TRU?

Transport Refrigeration Unit (TRU) means refrigeration systems powered by integral internal combustion engines designed to control the environment of temperature sensitive products that are transported in trucks, trailers, railcars, and shipping containers. TRUs may be capable of both cooling and heating.

5. Who is affected by the TRU ATCM?

The TRU ATCM applies to owners and operators of diesel-fueled TRUs and TRU generator sets that operate in California, irrespective of whether they are registered in or outside the State. This includes all carriers that transport perishable goods using diesel-powered refrigeration systems on trucks, trailers, shipping containers, and railcars that operate in California. Operators of terminals located in California where TRUs or TRU gen sets are regularly garaged, maintained, operated, or dispatched from, including a dispatch office, cross-dock facility, maintenance shop, business, or private residence (excluding an independent repair shop) are also subject to the TRU ATCM.

6. What are the basic requirements of the TRU ATCM?

Detailed requirements for TRU owners and operators are described in Section III - For Owners and Operators of TRUs of this guidance. Owners of TRUs based in California are required to register their TRUs by applying for an ARB identification number (IDN) for each TRU. This is done by registering each TRU in the ARB's Equipment Registration (ARBER) system at the ARBER website at: <https://arber.arb.ca.gov/Welcome.arb?prg=tru>.

Operators of terminals located in California are required to submit an initial Operator Report to ARB that provides information about the terminal and lists the IDNs of all TRUs assigned to the terminal. This is also done at the ARBER website: <https://arber.arb.ca.gov/Welcome.arb?prg=tru>.

Owners are responsible for ensuring that TRU engines meet in-use performance standards seven years after the engine model year. Compliance with the in-use performance standards is achieved by installing the required level of verified diesel emission control strategy (VDECS) or using an Alternative Technology. Compliance may also be maintained by replacing the engine with a cleaner new or rebuilt engine, which would then be in compliance until the seventh year after the replacement engine's model year or effective model year.

The regulation also requires Operator Report and/or IDN Information updates to be submitted to ARB within 30 days if the operator report information or registration information changes. Owner/operators of non-California-based TRUs and TRU generator sets that are used in California may choose to voluntarily apply for an IDN. Use of an IDN will reduce roadside inspection time because compliance information is pre-screened.

7. When does this regulation go into effect?

The regulation effective date was December 10, 2004. Registration of all California-based TRUs and TRU generator sets and the initial Operator Reports was due July 31, 2009. New units that are based in California must be registered in ARBER within 30 days of entering the owner's control.

TRUs and TRU generator sets that operate in California are required to meet the in-use performance standards on a phased compliance schedule, by December 31st of the seventh year after the engine model year or effective model year. More details on owner and operator compliance requirements and deadlines are provided below in Section III - For Owners and Operators of TRUs.

8. Do the local air districts have a role in enforcement?

Air districts can enforce their nuisance and opacity rules and regulations that generally apply to all emissions sources. In addition, air districts may report complaints about potential TRU ATCM violations to ARB Enforcement Division for follow-up. But, Section 39618 of the California Health and Safety Code specifically authorizes the ARB to regulate refrigerated trailers as mobile sources on a statewide basis to prevent confusion about whether they are stationary or mobile sources and to prevent inconsistent regulation by air districts. So, air districts are not enforcing the TRU ATCM unless they have a memorandum of understanding with ARB that authorizes them to enforce the TRU ATCM.

III. For Owners and Operators of TRUs:

1. What is a TRU?

A TRU is a refrigeration system that is powered by integral diesel-fueled internal combustion engine, designed to control the environment of temperature sensitive products that are transported in trucks and refrigerated trailers. Refrigeration systems that are powered off the engine used to propel the vehicle are not considered TRUs (e.g. belt-driven refrigeration compressors mounted on the motor vehicle engine) and would therefore be exempt. Refrigeration systems that are powered by gasoline-fueled engines or that are fueled with an alternative fuel (e.g. natural gas, propane, or liquefied natural gas) with no diesel fuel component are also exempt from the TRU ATCM, but may be required to comply with the Large Spark-Ignited (LSI) regulation. All-electric-powered refrigeration systems are also exempt, but the generator sets that provide power may be subject to regulations. For example, a TRU gen set is subject to the TRU ATCM and other types of generators may be subject to the Portable Equipment ATCM.

2. What is the definition of refrigerated trailer?

A refrigerated trailer is a trailer van, railcar, or shipping container equipped with a TRU or TRU gen set.

3. What is an operator?

An operator is any person, party or entity that operates a TRU or TRU gen set for the purposes of transporting perishable goods. For enforcement actions, an employee driver or third party maintenance and repair service person is excluded from responsibility.

4. What is an owner?

An owner is any person that legally holds the title (or its equivalent) showing ownership of a TRU or TRU gen set, excluding a bank or other financial lending institution.

5. What is an owner/operator?

Use of the term owner/operator means a requirement applies to the owner and/or operator of a TRU or TRU gen set, as determined by agreement or contract between the parties if the two are separate business entities.

6. Does the TRU ATCM apply to TRUs based outside of California?

Any TRU that operates in California, including those based outside of California, will need to meet California's in-use performance standards on the same schedule as California-based TRUs. Owner/operators of TRUs based outside of California may voluntarily register their TRUs to get an ARB identification number (IDN) at any time of their choosing. Use of IDNs will speed up inspection times.

7. Is there an exemption for TRUs that are rarely used?

No. All TRUs operating in California are subject to this regulation.

8. What are the requirements that apply to operators of in-use TRUs?

In-Use Performance Standards

The TRU ATCM requires in-use TRU and TRU generator set engines that operate in California, to meet in-use performance standards that vary by horsepower range. These standards can be met by:

- a) Using an engine that meets the required engine certification value, or
- b) Retrofitting the engine with the required level of verified diesel emission control strategy, or
- c) Using an Alternative Technology.

The In-Use Performance Standards have two levels of stringency (see Tables 1 & 2) that will be phased-in over time (see compliance dates in Table 3). The Low-Emission TRU (LETRU) In-Use Performance Standards shown in Table 1 are phased in first and apply to model year (MY) 2003 and older TRU engines and MY 2004 engines rated at less than 25 horsepower. The more stringent Ultra-Low-Emission TRU (ULETRU) In-Use Performance Standards shown in Table 2 must be met by all TRUs that operate in California in future years.

Table 1
Low-Emission In-Use Performance Standards

Horsepower	Engine Certification	Verified Diesel Emission Control Strategy
less than 25	0.30 gram per hp-hr	Level 2 or better (at least 50% PM reduction)
25 or greater	0.22 gram per hp-hr	Level 2 or better (at least 50% PM reduction)

Table 2
Ultra-Low Emission In-Use Performance Standards

Horsepower	Engine Certification	Verified Diesel Emission Control Strategy
less than 25	Not Applicable – use other option	Level 3 (at least 85% PM reduction)
25 or greater	0.02 gram per hp-hr	Level 3 (at least 85% PM reduction)

Alternative Technologies can be used to meet LETRU and ULETRU if diesel PM emissions are eliminated while at a facility, with limited exceptions (e.g. during an emergency or normal yard maneuvering). They include use of:

- a) Electric standby-equipped or hybrid electric (may be driven by integral diesel engine or electric motor, or an integral diesel engine-driven gen set that provides electric power to the electric motor-driven refrigeration system),
- b) Hybrid cryogenic temperature control systems (cryogenic temperature control system used in conjunction with a conventional TRU),
- c) Alternative diesel-fueled engines, if the fuel has been verified as a diesel emissions control strategy,
- d) Fuel cell-powered temperature control systems, and
- e) Other systems approved by ARB to not emit diesel PM or increase public health risk near a facility.

Registration in ARBER

Owners of TRUs are required to register California-based TRUs in the ARB's Equipment Registration (ARBER) system by applying for an ARB identification number (IDN). Operators of terminals located in California where TRUs are regularly garaged, maintained, operated, or dispatched from are required to submit an initial Operator Report to ARB that provides information about the terminal and lists the IDNs of TRUs assigned to the terminal. Only owners of TRUs are allowed to register TRUs or TRU gen sets unless a Third Party Agreement Confirmation Form has been submitted by the owner or lessor on behalf of a lessee (see TRU Advisory 08-04), contractor, or consultant. Third Party forms for the lessor/lessee (and alternatively for the contractor/consultant) are available at the ARBER TRU Forms Page at: <http://www.arb.ca.gov/arber/forms.htm>. Operator Report and registration updates are required with 30 days of when TRUs are purchased or sold, or when compliance information changes. Owner/operators of non-California-based TRUs and TRU generator sets may choose to voluntarily apply for an IDN. Since compliance information is pre-screened when IDNs are issued, roadside inspection time should normally be reduced.

9. When are TRU engines required to meet the in-use performance standards?

TRUs and TRU gen sets that operate in California will be required to meet the in-use performance standards on a phased compliance schedule, by December 31st of the seventh year after the engine

model year. Unit model year may be used in lieu of engine model year if it is within one year of the engine model year (see TRU Advisory 08-01).

Older TRU engines, for example MY 2001 and older, will be required to come into compliance first with LETRU by December 31, 2008 (extended to December 31, 2009) and will then be subject to the more stringent ULETRU standard seven-years later, in 2015. MY 2002 engines must meet LETRU by December 31, 2009, and then meet ULETRU by December 31, 2016. Similarly, MY 2003 engines must meet LETRU by December 31, 2010, and then meet ULETRU by December 31, 2017. MY 2004 engines that are rated at less than 25 hp must meet LETRU by December 31, 2011, and then meet ULETRU by December 31, 2018. But, MY 2004 engines rated at 25 horsepower or greater must meet UETRU by December 31, 2011. After that, MY 2005 and newer TRU engines must skip the LETRU standard and meet the ULETRU standard seven years after the engine model year. Table 3 shows this compliance schedule.

**Table 3
In-Use TRU and TRU Generator Set Compliance Schedule**

Engine Model Year	Compliance Date for LETRU Standard	Compliance Date for ULETRU Standard
2001 or older	December 31, 2008*	December 31, 2015
2002	December 31, 2009	December 31, 2016
2003	December 31, 2010	December 31, 2017
2004 (<25 hp)	December 31, 2011	December 31, 2018
2004 (≥25 hp)	Skip LETRU and meet ULETRU	December 31, 2011
2005 and Newer	Skip LETRU and meet ULETRU	December 31st of the model year + 7 years

Table 3 Notes:

* ARB has administratively delayed the enforcement of the first phase of the In-Use Performance Standards for one year (until December 31, 2009), since U.S. EPA's authorization to enforce was granted after the initial compliance deadline. See TRU Advisory 08-15 for details.

10. When are the operator reports due?

Initial operator reports were due at ARB on or before January 31, 2009 (delayed until July 31, 2009). Updated reports must be submitted within 30 days of any changes to the reported operator information. For details, see the "Operator Report" section of the TRU website at: <http://www.arb.ca.gov/diesel/tru/tru.htm>, or call the TRU Help Line at 1-888-878-2826 (1-888-TRU-ATCM) if you need assistance.

11. When is registration due (applying for ARB Identification numbers)?

Registration of all California-based TRUs (applying for IDNs for each TRU or TRU gen set) was due on or before January 31, 2009 (delayed until July 31, 2009). Only TRU owners are allowed to register TRUs or TRU gen sets (submit IDN applications). For details, see the "Registration Applications for ARB Identification Numbers" section of the TRU website at: <http://www.arb.ca.gov/diesel/tru/tru.htm>, or call the TRU Help Line at 1-888-878-2826 (1-888-TRU-ATCM) if you need assistance.

12. What information must be included in the application for the ARB identification number?

See TRU Advisory 08-06 for details.

13. What information is required for the Operator Reports?

Initial Operator Reports are required from all operators of terminals located in California where TRUs under their control (owned or leased) are regularly garaged, maintained, operated, or dispatched from, with the following information:

- a) Company name, terminal name (if different), address, phone number, and contact information.

- b) List of IDNs for all TRUs under the operator's control that are assigned to each California terminal that are owned or leased by the operator.

14. How should owners submit the ARB identification number applications and how should operators submit operator reports?

Only TRU owners are allowed to register TRUs or TRU gen sets unless a Third Party Agreement Confirmation Form (available at the ARBER website at: <http://www.arb.ca.gov/arber/forms.htm>) has been submitted by the owner or lessor on behalf of a lessee (see TRU Advisory 08-04), contractor, or consultant. See TRU Advisory 08-06 for more details.

15. What is the definition of a California-based TRU?

A California-based TRU is a TRU-equipped truck, trailer, shipping container, or railcar that a reasonable person would find to be regularly assigned to terminals within California.

16. What about TRUs I lease and operate in California?

Owners and operators are responsible for making sure that all of the TRUs they own or operate in California comply with the TRU ATCM. Lessors (owners) are typically responsible for ensuring the equipment they provide is in compliance with regulatory requirements. Occasionally, contractual agreements deviate from this norm. The operator (lessee) may need to negotiate new contracts with the owner (lessor) in time to ensure the equipment they lease meets the in-use performance standards by the compliance dates. If an operator is found to be operating in California with a non-compliant leased or rented TRU, the operator will be cited for the infraction and a penalty assessed. The lessor will also be cited, since lessors are prohibited from leasing or offering for lease any TRU for use in California that does not comply with the TRU ATCM. Please see TRU Advisory 08-04 at the TRU website at <http://www.arb.ca.gov/diesel/tru/tru.htm> for more details about leased and rented TRUs.

17. I operate TRUs in California and have terminals in California where these TRUs are assigned. What do I need to do to be in compliance?

- a) Owner/Operators are responsible for making sure that all of the TRUs they operate in California comply with the TRU ATCM. TRUs that operate in California must comply with the in-use performance standards shown in Tables 1 and 2 by the compliance dates shown in Table 3. (See questions 8 and 9 of this section.)
- b) TRU owners must register (apply for IDN) all TRUs based in California by January 31, 2009 (delayed until July 31, 2009). TRUs added to a TRU operator's California-based operations register in ARBER within 30 days of the unit entering the operator's control. (See questions 11 and 12 of this section.)
- c) TRU operators with terminals in California must submit an initial Operator Report for each California terminal by January 31, 2009 (delayed until July 31, 2009) that provides the location of the terminal and lists all TRU IDNs that are assigned to each California terminal. The operator report must be updated within 30 days when changes to the information occur. (See questions 10 and 13 of this section.)

18. I have TRUs that are based outside of California and operate in California, but I don't have any terminals in California where TRUs are assigned. What do I need to do to be in compliance?

- a) Owner/operators are responsible for making sure that all of the TRUs they operate in California comply with the TRU ATCM. TRUs that operate in California must comply with the in-use performance standards shown in Tables 1 and 2 by the compliance dates shown in Table 3. (See questions 8 and 9 of this section.)
- b) Owners of non-California-based TRUs may voluntarily register (apply for IDN) TRUs that are based outside of California but operate within California periodically. IDNs will speed up

inspections at border crossings, scales, distribution centers, and truck stops. There is no deadline for IDN applications for non-California-Based TRUs.

19. What kind of enforcement mechanisms will be used to detect violations of the ATCM?

ARB's Enforcement Division will conduct inspections at border crossings, scales, roadside inspection stations, TRU operators' terminals, distribution centers, truck stops, ports, intermodal facilities, and anywhere TRUs are found operating. ARB staff will also audit records and compare them to the reports submitted to ARB.

20. What kind of penalties could result from violations of the TRU ATCM?

Penalties will depend on the specific violation. Failure to meet the in-use standards could result in penalties that start at \$1,000. Failure to register could result in \$500 penalty. Failure to affix the IDN to both sides of the TRU housing in accordance with the requirements could result in a \$300 penalty. Submitting incorrect registration information could result in a \$300 penalty. Penalties are additive. Failure to correct a noncompliance within 30 days is cause for greater penalty amounts. Penalty provisions are set forth in the California Health and Safety Code sections 39674, 39675, 42400 et seq., 42402 et seq., and 42410.

21. I think my original equipment TRU engine complies with the low-emission TRU in-use performance standard, so what do I do?

This is not possible at this time. New engines are certified by the engine manufacturer to meet new engine standards. In-use standards are more stringent than new engine standards. By way of example, model year 1999 through 2003 engines rated at 25 hp to less than 50 hp were subject to the Tier 1 new engine standards (0.60 grams per hp-hr particulate matter (PM)). The Low-Emission TRU (LETRU) standard is 0.22 g/hp-hr. Engine manufacturers have not certified new engines to meet more stringent standards earlier than required. New engine standards and in-use standards do not align until the final Tier 4 (Tier 4f) standard goes into effect in 2013 for engines rated at 25 hp to less than 50 hp (0.02 grams per hp-hour of particulate matter). Then, replacement engines that are rated at 25 hp to less than 50 hp and meet the Tier 4f standard would also meet ULETRU and these replacement engines would therefore not have any further in-use standard compliance requirements.

22. Are there any incentives for early compliance?

Yes. For 2002 and older model year TRU engines that meet the LETRU in-use performance standard earlier than required, the operator may apply for a delay in the deadline for meeting the ultra-low-emission TRU (ULETRU) in-use performance standard. Early compliance is conditioned upon real emission reductions occurring. For example, in complying with the LETRU in-use performance standard, the operator must have taken an action that results in real reductions of diesel particulate matter, like installing a verified diesel emission control strategy so that the PM emission rate is reduced by more than 50 percent. One year of early compliance with the LETRU standard earns a one year delay in the deadline for the ULETRU in-use standard. Likewise, two years early compliance earns two years delay. No more than three years delay can be earned. See TRU Advisory 08-12 for more details.

23. Do I have to get permission for early compliance extensions?

You must apply to ARB for a delay in the ULETRU compliance date as part of the ARB identification number application requirement. See TRU Advisory 08-12 and the ULETRU Extension Application Form at the TRU Website (click on the forms link in the left navigation bar at <http://www.arb.ca.gov/diesel/tru/tru.htm>).

24. What other incentives are available?

Please check ARB's *The Truck Stop - Financial Opportunities for TRUs* at:
http://www.arb.ca.gov/msprog/truckstop/funding/tru_fa.htm

25. What does it mean to say that a diesel emission control strategy has been verified?

Before a diesel emission control strategy can be used to comply with the TRU ATCM, it must be verified by ARB. This means, in part, that a Verified Diesel Emissions Control Strategy's (VDCES) diesel PM emission reductions have been confirmed by emissions testing and durability testing showed the strategy will continue to reduce PM emissions within the applied-for verification classification level after a minimum durability period. The manufacturer must also provide the minimum warranty required by law. Alternative Technologies that use alternative diesel fuels or fuel additives also must go through multi-media assessment and in-use verification before they can be used to comply with the TRU ATCM.

26. Are there any verified diesel emission control strategies available now?

Yes. The TRU website lists verified diesel emission control strategies (VDECS) that meet Level 2 and Level 3 for the TRU application. VDECS are listed on the following websites:
<http://www.arb.ca.gov/diesel/tru/tru.htm> and www.arb.ca.gov/diesel/verdev/verdev.htm. Owners should look for opportunities to learn about VDECS that may be available from manufacturers of diesel emission control systems. Several suggestions follow:

- ARB's *Heavy Duty DECS Installation/Maintenance* website is at:
<http://www.arb.ca.gov/msprog/decsinstall/decsinstall.htm>
- ARB offers Course #511: Diesel Exhaust Aftertreatment Devices, which is offered around the state at various times: <http://www.arb.ca.gov/training/courses.php?course=511>

ARB is also aware of several options that qualify as Alternative Technologies that are now in production and commercially available (e.g. electric standby and cryogenic systems) that do not require verification. Installing these systems would meet both the LETRU and ULETRU in-use performance standards.

27. TRU generator sets have very limited space inside the housing for VDECS and it would be unacceptable to mount them outside the housing. What if we find that there are no acceptable compliance options for our TRU gen sets?

TRU generator set engines may be replaced or the whole unit may be replaced if the owner finds no acceptable engine retrofit options.

28. If I have ordered a VDECS (or other compliance option), but there is a bottleneck in the supply chain or at installation shop, what do I do?

Owners must place compliance technology orders early enough to take into consideration lead times for delivery and installation. Good-faith ordering is completed at least three months before the compliance deadline and may need to be longer for fleets with a number of units needing to comply. No grace periods are provided, so the owner may need to park noncompliant units or make arrangement to operate outside of California until compliance is achieved. Owners may also make their unit obviously nonoperational and haul only dry goods until compliance is achieved (see TRU Advisory 08-09).

29. If an operator had a TRU that was equipped with electric standby before the LETRU compliance date, can they count this as early compliance and thus get a delay in the ULETRU compliance date?

If the operator can show the TRU is plugged in at all times while at a distribution facility, thus eliminating the TRU diesel engine operation while at a facility, this approach would qualify as an Alternative Technology. As such, it would meet both LETRU and ULETRU, and would therefore not

need a delay for ULETRU. To prove compliance, recordkeeping/documentation would be needed to show TRU engine operation is eliminated at the facility, except during emergencies and normal yard maneuvering. See TRU Advisory 08-02 for more details.

30. What kind of recordkeeping is required to show electric standby or hybrid electric/diesel equipment eliminates TRU diesel engine operation at a distribution center?

See TRU Advisory 08-02.

31. I have a TRU equipped with electric standby. To qualify as "Alternative Technology", do I have to make sure all facilities this TRU delivers to are equipped with a compatible electric outlet?

See TRU Advisory 08-02.

32. What is this going to cost?

Costs for verified diesel emission control strategies (VDECS) will depend on market forces. For example, if there are many VDECS manufacturers competing for the available market when compliance dates are approaching, this would tend to drive the costs down. If many TRU operators wait to comply until the last minute, creating greater demand, this would tend to drive costs up. Economies of scale would also reduce costs as production sales numbers go up. Staff anticipates costs will settle down as more VDECS are verified and competition increases.

Cost of compliance for VDECS retrofits currently range from \$4,750 to \$5,050. Engine replacements range from \$4,750 to \$9,000. Although the cost of compliance is greater than anticipated during rule development, the TRU ATCM's cost-effectiveness, expressed as dollars per pound of pollutant reduced, is still within the range of other diesel emission control measures' cost-effectiveness that have been adopted by the Board. These costs obviously affect a business' profitability and TRU fleets are encouraged to revise their business plans and trucking rates accordingly.

33. Does ARB charge any fees for services under this regulation (e.g. issuing the ARB identification number)?

No.

34. What if I'm planning to retire a TRU a few years after the compliance deadline?

Operators have the choice of complying with the TRU ATCM by using one of the many compliance options, selling non-compliant TRUs out of state, or scrapping non-compliant TRUs. Owners may also convert a refrigerated trailer to a dry trailer by disabling the TRU (e.g. removing the fuel tank and TRU battery). See TRU Advisory 08-09 for more details.

35. If I am selling or leasing TRUs in California, do these TRUs have to be in compliance with the TRU ATCM?

Yes. Once a compliance deadline passes for a TRU model year, it is not legal to sell, offer for sale, lease, offer to lease, rent, or offer to rent a TRU for use in California that does not meet the in-use performance standards in the ATCM. See title 13, California Code of Regulations, section 2477, subsection (g) for details. This regulation is listed on the TRU website as the "Final Regulation Order" in the General Information section.

36. Is fleet averaging possible? Can I get a compliance extension for some TRU engines if I comply ahead of schedule for other TRUs?

No. Staff considered this during rule development and found that it would be too difficult to enforce and we do not believe this approach would produce verifiable emission reductions that would be equivalent to what is needed to reduce near-source health risk to acceptable levels.

37. What if I want to volunteer to participate in demonstration projects of new technology to reduce diesel PM?

ARB encourages fleet owners to participate in approved demonstration projects and keeps a list on “Interested Fleets – for Demonstrations”, which we provide to diesel emissions control strategy manufacturers that are interested in developing VDECS for TRUs. It is against State law to charge the TRU owner/operator for demonstrations prior to receiving in-use verification approval, so demonstrations are “free”.

If the TRU engines have been certified then any modification, including the addition of a PM filter, the demonstration would need an experimental permit from ARB. This is designed to prevent tampering, while allowing testing and evaluation of new emission control technology. The manufacturer typically applies for this permit.

For TRUs and TRU generator sets, the off-road diesel engine categories that have been certified are listed below:

<u>Power Rating</u>	<u>Model Years</u>
Less than 25 hp (less than 19 kW)	1995 and newer
25 hp (19 kW) to 49 hp (37 kW)	1999 and newer
50 hp (37 kW) to 99 hp (74 kW)	1998 and newer
100 hp (75 kW) to 174 hp (130 kW)	1997 and newer
175 hp (130 kW) to 299 hp (223 kW)	1996 and newer

Typically the diesel emission control strategy manufacturer will need to apply for an experimental permit by providing information on the modifications they plan to do, what type of tests they will perform, the engines involved (model year, make and how many) and disposition of the modified engine or part at the end of the permit.

If the manufacturer plans to market the DECS in California then they will need an anti-tampering exemption from California Vehicle Code §27156 and 38391. The procedures for obtaining an exemption for add-on and modified parts for off-road engines can be found at the following website:

<http://www.arb.ca.gov/msprog/aftermkt/aftermkt.htm#offroad>

Click on the link for *Off-road Vehicles, Engines, and Equipment*. An application form is included as one of the links.

38. If I want to use an alternative diesel fuel to comply, what are the requirements?

No alternative diesel fuels have been verified as a VDECS, therefore this is not a compliance option at this time. The alternative diesel fuel must first go through California’s multimedia assessment and be verified as a VDCES. In addition, the operator must fuel the TRU exclusively with the chosen verified alternative diesel fuel. This means that there can be no conventional diesel fuel used in the TRU engine. Records must therefore be maintained to document the exclusive use of the chosen fuel and the hours of operation for each affected engine so that compliance can be verified. Appropriate records would be receipts or invoices for the fuel and daily operating hour meter logs. Records must be made available to ARB inspectors upon request, going back at least three years. In addition, a label must be permanently affixed to the fuel tank near the fill spout in plain view that identifies the proper fuel that is required to achieve compliance.

39. Can particulate filters damage TRU engines?

Diesel particulate filters must be correctly matched to TRU engines. TRU engine operations must be conducted in a way that conforms to the diesel emissions control system manufacturer’s owner’s manual. Attention to proper use and maintenance details will help avoid the potential for engine damage. For example, ignoring a backpressure warning light may result in damage to the retrofit device and may stop the engine. Proper training for drivers and yard personnel should greatly reduce the chance of this happening. Several training opportunities are offered by ARB:

- ARB's *Heavy Duty DECS Installation/Maintenance* website is at: <http://www.arb.ca.gov/msprog/decsinstall/decsinstall.htm>
- ARB offers Course #511: Diesel Exhaust Aftertreatment Devices, which is offered around the state at various times: <http://www.arb.ca.gov/training/courses.php?course=511>

40. Do diesel emission control strategies come with a warranty?

Yes. ARB's verification procedures for TRU VDECS hardware requires a warranty, as follows:

Engine Size	Minimum Warranty Period
Under 25 hp	3 years or 1,600 hours ¹
At or above 25 hp and under 50 hp	4 years or 2,600 hours ¹
At or above 50 hp	5 years or 4,200 hours ¹

1. Whichever occurs first

41. Do I have to replace a failed trap or catalyst?

Yes. A failed device that is still in warranty must be replaced with the same device. Once the warranty has expired, the owner must use the highest level of VDECS available for the TRU engine as a replacement.

42. What are the requirements for displaying the ARB identification number?

Within 30 days of being issued by ARB, the operator must permanently affix or paint the IDN on both sides of the TRU housing. Letters and numbers must contrast sharply in color with the color of the background surface on which the letters are placed and be readily legible during daylight hours within 50 feet. Markings must be maintained in a manner that retains this legibility. See TRU Advisory 08-10 for more details.

Other unique equipment numbers may be used instead of the ARB IDN for railcars, shipping containers and TRU generator sets. See TRU Advisory 08-03 for more details.

43. If there is not enough space on the side of the TRU to display the ARB identification number, what do I do?

See TRU Advisory 08-10 at the TRU Webpage at: <http://www.arb.ca.gov/diesel/tru/tru.htm>

IV. Hazardous Waste from DPFs and DOCs

See the guidance document under the TRU Verified Diesel Emissions Control Strategy Information section on the TRU Website at: <http://www.arb.ca.gov/diesel/tru/tru.htm>

For more information about TRUs

You can visit any of several ARB sites dealing with the TRU ATCM and reducing risk from diesel engines. The best place to start is the TRU website at www.arb.ca.gov/diesel/tru/tru.htm. To obtain a copy of the regulation, ARB staff report, and other related documents, visit our web site at <http://www.arb.ca.gov/regact/trude03/trude03.htm>. Additional questions may be addressed to the toll-free TRU Help Line at 1-888-878-2826 (1-888-TRU-ATCM).

If you need this document in an alternative format or another language, please call 1-888-878-2826 or email tru@arb.ca.gov. TTY/TDD/Speech users may dial 711 for a California Relay Service.