

Transport Refrigeration Unit (TRU)  
Airborne Toxic Control Measure (ATCM)  
2011 Amendments - Workshop #1

March 29, 2011  
Byron Sher Auditorium, Sacramento, CA



California Environmental Protection Agency  
 Air Resources Board

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**Outline**

*TRU Regulation*

- Background Information
  - Enforcement Status
  - Proposed Amendments
  - Emissions Inventory Inputs
  - Overview of Rulemaking Process
  - Next Steps
  - Contact Information
  - Discussion
- Today only - email to:  
[auditorium@calepa.ca.gov](mailto:auditorium@calepa.ca.gov)



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**Background**

- TRU ATCM adopted February 2004
- U.S. EPA approve waiver January 16, 2009
- 2010 Amendments adopted November 18, 2010
- 2010 Amendments effective March 7, 2011



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## Basic Requirements

- Registration in ARBER
  - All TRUs based in California
  - Voluntary for TRUs based outside California
- Operator Reports
  - Affects all California terminals where TRUs are assigned
- Meet in-use performance standards
  - Affects all TRUs that operate in California – including those based outside of California if they operate in California
  - Phased compliance schedule – seven years after engine model year

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## Background Why Control TRU Emissions?

- Emissions per unit are high
- Large numbers congregate at distribution centers, cold storage warehouses, ports, and rail yards
- High near-source public health risk
- Often near residences, schools, hospitals
- Contribute to overall exposure to diesel PM

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## 2010 Amendments

- MY 2003 engines (all hp categories)
  - May meet LETRU in lieu of ULETRU by 12-31-10
  - Enforcement delayed until 3-31-11
  - If meet LETRU, must meet ULETRU by 12-31-17
- Flexibility engines (meets prior-tier standard)
  - If installed prior to 3-7-11, use manufacture year
  - If installed after 3-7-11, must use effective model year
  - Effective MY = last year that prior tier was in effect
- TRU manufacturer reports (unit/engine information)

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## Compliance Technologies

- Engine replacement – resets the compliance clock
- Unit replacement – resets the compliance clock
- Retrofit with correct level of VDECS
  - LETRU – Level 2 VDECS – model year 2003 & older
  - ULETRU – Level 3 VDECS – model year 2004 & later
- Use Alternative Technology (meets ULETRU)
  - Electric standby/Hybrid electric
  - Hybrid cryogenic
- See listing: Control Technology Options at:  
[http://www.arb.ca.gov/diesel/tru/documents/control\\_option\\_matrix.pdf](http://www.arb.ca.gov/diesel/tru/documents/control_option_matrix.pdf)

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## Enforcement Status Update

### Through March 3, 2011

- About 11,000 inspections
- About 3,000 citations issued

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## Proposed Amendment Concepts

### 1. Evaluate longer operational life for MY 2004 and newer TRUs which must meet ULETRU

- “Operational Life” applies to the life an engine is allowed before in-use performance standards apply
- Current ULETRU compliance date is 7 years after engine model year (i.e. 7 year operational life)
- Staff is evaluating 1 to 3 additional years operational life before ULETRU must be met

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## Proposed Amendment Concepts

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**4. Clarify operational and recordkeeping requirements for hybrid electric/electric standby (E/S) and hybrid cryogenic temperature control systems:**

- Recordkeeping to demonstrate engine nonoperation at facilities
- Automated GPS-based electronic tracking and reporting phased in:
  - 50 percent of fleet by December 31, 2012
  - 100 percent by December 31, 2013

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## Proposed Amendment Concepts

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**4. Clarify operational and recordkeeping requirements for Electric Standby (E/S) (cont'd)**

- Nonretail pick-up and delivery points
  - Diesel engine operation must be eliminated, except during normal ingress and egress or emergency
  - Must demonstrate capability to plug in
- Retail delivery points
  - Limit TRU engine operation to 30 minutes
  - Must plug into electric power if engine runs longer than 30 minutes

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## Proposed Amendment Concepts

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**5. Add requirements for drivers, brokers, forwarders, carriers, shippers, & receivers:**

- Drivers – must provide information to inspector: license, registration, origin & destination of freight, information about the broker and/or freight forwarder, shipper, receiver, and motor carrier
- California-based brokers and/or freight forwarders, shippers, and receivers – If arrange transport of perishable goods on California highways, must only dispatch compliant TRUs and provide broker or freight forwarder, shipper, and receiver information, to dispatched driver
- Motor carriers – must only dispatch compliant TRUs and provide motor carrier information to dispatched driver

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### Proposed Amendment Concepts

#### 5. Add requirements for drivers, brokers, carriers, shippers, & receivers (cont'd)

- Assistance needed from affected stakeholders
  - Understand business processes and dispatch procedures
  - Discuss possible tools to determine compliant TRUs or companies with compliant equipment
  - Documents currently used that identify:
    - ✓ Shipper (consignor)
    - ✓ Broker and/or freight forwarder
    - ✓ Carrier
    - ✓ Receiver (consignee)

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### Proposed Amendment Concepts

#### 6. Clarify Compliance by Replacing Engines

- New or rebuilt replacement engines
  - Must meet a more stringent standard than original engine
  - Otherwise, must retrofit with highest level of VDECS available
- New replacement engines must meet in-use standards by compliance dates based on:
  - Engine model year (current-tier replacement engines), or
  - Effective model year (prior-tier replacement engines)
- Rebuilt engines must meet in-use standards based on:
  - Model year (year of rebuild), if meets current tier
  - Effective model year, if meets prior-tier

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### Proposed Amendment Concepts

#### 7. Dealer requirements and allowances:

- **Registration and in-use compliance are not required for operational noncompliant units in a dealer's yard, provided:**
  - Unit not operated onsite except as demonstration
  - Unit is not offered for sale, rent, or lease to a person doing business in California
- **Operational noncompliant units can be moved on California roads, provided:**
  - Unit is not operating/not loaded with perishable goods
  - Documentation is carried supporting reason for transit

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### Proposed Amendment Concepts

**8. Add compliance extension provision, up to one year, if EO determines that suitable compliance technology not available, provided:**

- Application is submitted no later than six months before the compliance deadline
- Adequate demonstration that no compliance technology is available
- Applicant's fleet is otherwise in compliance

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### Proposed Amendment Concepts

**9. Add an exemption for nonoperational TRUs not covered by dealer exemption:**

- TRUs separated from van
- Units with no engine or fuel injection system
- Trailer TRUs – fuel tank and battery removed and labeled "NONOPERATIONAL"
- Truck TRUs – Umbilical connections removed and labeled "NONOPERATIONAL"
- TRU gen sets – quarantined to cordoned off area or behind barrier with signs and control panel tags: "DO NOT OPERATE IN CALIFORNIA"

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### Proposed Amendment Concepts

**10. Add an exemption for refrigeration systems that have no integral diesel engine providing power**

Examples are refrigeration systems that are:

- Driven by a gasoline-fueled engine
- Driven by electric motors with no integral diesel engine
- Pure cryogenic temperature control systems with no integral diesel engine

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### Proposed Amendment Concepts

#### 11. Add exemption for TRUs used during federal- and/or state-declared emergencies

- Amend the definition of emergency to cover federal and state-declared emergencies and certain other emergency responses.
- Staff need to understand how many units are involved, emissions impacts, and associated public health risk

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### Proposed Amendment Concepts

#### 12. Add a low-use exemption for TRUs that operate in California less than 100 hours per year

- Requirements:
  - TRU is registered in ARBER;
  - TRU is equipped with a non-resettable engine hour meter that is connected to the unit's microprocessor;
  - TRU is equipped with an electronic tracking system;
  - Owner must apply for low-use exemption and provide one year of hour meter records; and
  - Owner must submit annual report
- Enforceability issues exist for out-of-state units
- Staff need information from stakeholders

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### Proposed Amendment Concepts

#### 13. Clarify prohibitions on sale of noncompliant units

- All persons prohibited from selling noncompliant units in California to persons that could be reasonably expected to do business in California
- Dealers allowed to sell noncompliant units outside of California with disclosure documentation
- Dealers allowed to purchase noncompliant units but restricts resale to California business unless brought into compliance prior to resale
- Written disclosure on bill of sale if noncompliant for use in California and sold to person residing outside of California

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### Proposed Amendment Concepts

#### 14. Clarify lessor and lessee requirements

- Revise the definition of owner to clarify that lessor is responsible for registration and compliance with in-use performance standards
- Add a provision for delegating responsibilities to lessee, if certain conditions are met
- Clarify that lessee is required to submit operator reports

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### Proposed Amendment Concepts

#### 15. Use TRU model year instead of engine model year if difference is no greater than 1 year.

- If more than one year, then would revert back to the engine model year

#### 16. Add a provision to allow the use of unique equipment identification numbers instead of affixing an ARB IDN, provide:

- Owner registers unit in ARBER
- Equipment ID number must be unique
- Equipment ID number must be seen from both sides of the unit

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### Proposed Amendment Concepts

#### 17. Add a provision to allow the ARB Executive Officer (EO) to grant a four-month (maximum) extension if equipment not received or installed due to manufacturer delays or installation issues, provided:

- TRU is registered in ARBER
- Extension request form is submitted before the original compliance deadline
- Documentation is provided showing timely orders
- Installer statements are provided certifying installation difficulties

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### Proposed Amendment Concepts

#### 18. Add requirements for TRU original equipment manufacturers (OEM)

- Provide supplemental label with new prior-tier replacement engines and flexibility engines
- Supplemental label must include:
  - Engine manufacturer
  - Engine serial number and model
  - Engine model year or effective model year (if prior-tier engine)
  - Emissions standard tier met (e.g. Tier 2)
  - Engine power rating

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### Proposed Amendments Concepts

#### 19. Requirements for TRU OEMs, dealers, and repair shops that sell and/or install TRUs, install replacement engines and/or in-use compliance technologies

- Provide a document with unit and engine or compliance technology information
- Document must be consistent with labels
- Document must be given to owners upon sale

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### Proposed Amendment Concepts

#### 20. Requirements for Engine Rebuilders

- Clarify engine rebuild requirements
- Require engine rebuilders to provide supplemental engine label and document with rebuilt engine
- Require engine rebuilders to provide emissions certification configuration documentation to ARB that is signed and stamped by a licensed engineer

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## Emission Inventory Input Update

Input	Data used in 2003	Additional data of possible use today
Population, growth factors	Power Systems Research, original equipment manufacturers (OEM) surveys, Bureau of Transportation Statistics, EMFAC, Association of American Railroads	ARBER, DMV, Truck and Bus Rule inventory data, financial reports from manufacturers
Model year distribution, survival rate	Power Systems Research, OEM surveys	ARBER
Activity level	Power Systems Research, OEM surveys	Facility Reports (2005-2007), OEM surveys
Engine size, load factors	Power Systems Research, OEM surveys	EPA engine certification submittals, OEM surveys
Emission factors	OFFROAD, OEM surveys	EPA engine certification submittals, OEM surveys
Recession impacts	-	Truck and Bus Rule, trade journals, academic studies
TRU ATCM compliance rates and choices	-	ARBER; CARB Enforcement Division

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## Overview of Rulemaking Process

- Workshops - informal comments
  - March 29, 2011 - Draft concepts
  - May 10, 2011 - Draft language & emissions
  - June 16, 2011 – Draft language, emissions & public health risk
- 45-Day Public Notice of Rulemaking
  - Formal comment period begins Fall 2011
- Board Public Hearing – Fall 2011

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## TRU Regulation Contact Information

- TRU website: <http://www.arb.ca.gov/diesel/tru/tru.htm>
- TRU List Serve: <http://www.arb.ca.gov/listserv/tru.htm>
- TRU Help Line: 1-888-878-2826 (1-888-TRU-ATCM)
- Comments after workshop:  
 Rich Boyd ([rboyd@arb.ca.gov](mailto:rboyd@arb.ca.gov), 916-322-8285) or  
 Rod Hill ([rhill@arb.ca.gov](mailto:rhill@arb.ca.gov), 916-327-5636)



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## Proposed Revision Concepts

### Questions and Comments

#### **During workshop:**

- Email questions and comments during workshop to:  
[auditorium@calepa.ca.gov](mailto:auditorium@calepa.ca.gov)
- Conference call-in line  
Toll-free in US and Canada: 800-779-1505  
Toll Number: 212-2687-1669  
Passcode: 55390

#### **After workshop:**

- Call Rich Boyd (916-322-8285) or Rod Hill (916-327-5636)

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