

## TITLE 13. CALIFORNIA AIR RESOURCES BOARD

### NOTICE OF PUBLIC HEARING TO CONSIDER THE ADOPTION OF PROPOSED AIRBORNE TOXIC CONTROL MEASURE FOR IN-USE DIESEL-FUELED TRANSPORT REFRIGERATION UNITS (TRU) AND TRU GENERATOR SETS, AND FACILITIES WHERE TRUs OPERATE

The Air Resources Board (ARB or Board) will conduct a public hearing at the time and place noted below to consider adopting a regulation to reduce public exposure to diesel exhaust particulate matter (diesel PM) and other toxic air contaminants (TAC) by reducing in-use emissions from Transport Refrigeration Units (TRU) and TRU generator sets.

DATE: December 11, 2003

TIME: 9:00 a.m.

PLACE: California Environmental Protection Agency  
Air Resources Board  
Central Valley Auditorium  
1001 I Street  
Sacramento, California 95814

This item will be considered at a two-day meeting of the ARB, which will commence at 9:00 a.m., on Thursday, December 11, 2003, and may continue at 8:30 a.m., Friday, December 12, 2003. This item may not be considered until Friday, December 12, 2003. Please consult the agenda for the meeting, which will be available at least ten days before December 11, 2003, to determine the day on which this item will be considered.

If you have special accommodation or language needs, please contact the ARB's Clerk of the Board at (916) 322-5594 or [sdorais@arb.ca.gov](mailto:sdorais@arb.ca.gov) as soon as possible. TTY/TDD/Speech-to-Speech users may dial 7-1-1 for the California Relay Service.

#### **INFORMATIVE DIGEST OF PROPOSED ACTION AND POLICY STATEMENT OVERVIEW**

**Sections Affected:** Proposed adoption of Chapter 3 - Article 4, section 2022, title 13, California Code of Regulations (CCR).

**Background:** In 1998 the Board identified diesel particulate matter emissions from diesel-fueled engines as a toxic air contaminant. Two years later, the Board adopted the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (Diesel Risk Reduction Plan) in September 2000, which established a goal of reducing emissions and the resultant health risk from virtually all diesel-fueled engines and vehicles within the State of California by the year 2020. This Plan envisions that particulate matter emissions from diesel-fueled engines and vehicles should be reduced by 75 percent in 2010 and 85 percent in 2020. The Plan identified various methods for achieving the goals including new, more stringent standards for all new diesel-fueled engines and vehicles, the replacement of older in-use engines with

new, cleaner engines, the use of diesel emission control strategies on in-use engines, and the use of low-sulfur diesel fuel.

The major sources of diesel PM are the approximately 1,250,000 diesel-fueled engines in vehicles and equipment used in California. The health impacts of diesel PM include increased incidence of lung cancer, chronic respiratory problems (such as asthma and bronchitis), cardiovascular disease, and increased hospital admissions and mortality. In California, diesel PM emissions are estimated to comprise 70 percent of the total potential cancer risk from all identified toxic air contaminants.

TRU diesel engines currently emit approximately two tons per day of diesel PM. The diesel PM emissions from TRUs are expected to increase to about 2.5 tons per day in 2010, and to about three tons per day in 2020 as more TRUs are placed into service. Because of the high potency of diesel PM and the potential for large numbers of TRUs to operate at one location, often times near residential areas, staff believes that there are situations where the estimated 70-year potential cancer risk resulting from exposure to diesel PM emissions from TRUs will be in excess of a 100 in a million.

On May 16, 2002, the Board approved the *Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines* (13 CCR Sections 2700-2710). This rule establishes procedures for the verification of emission control strategies by ARB that can be applied on various diesel-fueled engines and vehicles to significantly reduce diesel PM emissions.

It is important to reduce diesel PM emissions from TRUs. H&SC sections 39666 and 39667 requires the ARB to adopt regulations to achieve the maximum possible reduction in public exposure to TACs through the application of best available control technology (BACT), or a more effective control method, in consideration of cost, risk, environmental impacts, and other specified factors.

Furthermore, the Children's Environmental Health Protection Act (Stats. 1999, Ch. 731) requires the California Environmental Protection Agency to specifically consider children in setting Ambient Air Quality Standards and in developing criteria for TACs. OEHHA identified diesel PM and several other TACs associated with motor vehicle exhaust among the top priority pollutants affecting children's health.

ARB staff has prepared an Initial Statement of Reasons (ISOR) for the proposed Airborne Toxic Control Measure for *In-Use Diesel-Fueled TRUs and TRU Gen Sets, and Facilities where TRUs Operate* (proposed ATCM) that, together with the needs assessment (Diesel Risk Reduction Plan), serves as the report on the need and appropriate degree of regulation for in-use TRUs.

**Description of the Proposed Regulatory Action:** The proposed ATCM is designed to reduce the general public's exposure to diesel PM, other toxic contaminants, and criteria air pollutants from TRUs.

## *Applicability*

The requirements of the proposed ATCM would affect owners and operators of “in-use” diesel-fueled TRUs and TRU generator sets that operate in California. This would include all carriers, whether based in California or out-of-state, that transport perishable goods using refrigerated trucks, trailers, shipping containers, and railcars within the state. Most TRUs are owned or operated by corporations, businesses, and individuals. There are a few local municipalities, school districts, and correctional institutions that operate TRUs that may be affected. Staff estimates that there are currently approximately 32,000 California-based TRUs, and 7,500 on-highway truck and trailer equipped TRUs, and 1,700 railcar TRUs that are based outside of California that operate in California at any given time.

## *Requirements for in-use TRUs*

The proposed ATCM would require in-use TRU engines that operate in California, including out-of-state based TRUs that operate in California, to meet specific performance standards that vary by horsepower range. The in-use performance standards have two levels of stringency that would be phased in over time beginning in 2008. By December 31, 2008, all 2001 and earlier TRU engines that operate in California would have to meet “low emission TRU” performance standards. All 2002 TRU engines would have to meet the low emission TRU performance standard by December 31, 2009. Each subsequent model year engine (2003, 2004, etc.) would have to meet the “ultra-low emission TRU” performance standards seven (7) years after the engine model year (2003 model year engine must meet the ultra low emission TRU performance standard in 2010, 2004 model year engines in 2011, etc). In 2015, any 2001 and earlier model year engines that are still in operation would have to meet the ultra low emission TRU performance standards. In 2016, any 2002 model year TRU engines in operation would have to meet the ultra low emission TRU performance standards. The average useful life of a TRU is 10 years. The proposed ATCM in effect reduces the useful life of TRUs to 7 years. This accelerated retrofit or replacement schedule will ensure that the entire TRU fleet will be ultra low emission TRUs by 2020. The proposed TRU performance standards are as follows:

- (1) For engines less than (<) 25 hp:
  - Low emission TRU performance standards
    - Meet a PM emission standard of 0.3 g/bhp-hr, or
    - Retrofit with a Level 2 or 3 Verified Diesel Emission Control System (verified control system<sup>1</sup>), or
    - Use an alternative technology.
  - Ultra low TRU performance standards
    - A PM emission standard is not being proposed at this time<sup>2</sup>, or

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<sup>1</sup> Verified Diesel Emission Control Strategy means an emission control strategy designed primarily for the reduction of diesel particulate matter emissions that has been verified per the *Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines (13 CCR Sections 2700-2710)*. PM reduction Level 1: =25%; Level 2: =50%; Level 3: =85% or 0.01 g/bhp-hr.

- Retrofit with a Level 3 verified control system, or
- Use an alternative technology.

(2) For engines equal to or greater than (=) 25 hp:

- Low emission TRU performance standard
  - Meet a PM emission standard of 0.22 g/bhp-hr, or
  - Retrofit with a Level 2 or 3 verified control system, or
  - Use an alternative control technology.
- Ultra low TRU performance standard
  - Meet a PM emission standard 0.02 g/bhp-hr, or
  - Retrofit with a Level 3 verified emission control system, or
  - Use an alternative technology.

The PM performance standards are based on the Tier 4 nonroad standards proposed by U.S. EPA in their May 23, 2003 Notice of Proposed Rulemaking for Control of Emissions of Air Pollutants from Nonroad Diesel Engines and Fuel (hereinafter referred to as Nonroad Standards) (U.S. EPA 2003). The verified retrofit control levels are based on staff's technical evaluation of what retrofits are likely to become verified by 2008. Given this uncertainty, staff is proposing to conduct technology reviews in 2007 and 2009 to evaluate technology readiness for the in-use requirements. Part of that technology evaluation would be to consider whether more stringent emission standards are feasible in the later years of the ATCM and if so what implementation schedule is appropriate.

#### *Alternative Technologies*

TRUs that elect to use one of the "alternative technologies" listed in the ATCM would qualify as an ultra low TRU. These alternative technologies include the use of electric standby, cryogenic temperature control systems, alternative fuel, alternative diesel fuel, fuel cell power, or any other system approved by the Executive Officer.

#### *Incentive*

The proposal includes a provision that encourages operators of model year 2002 and earlier TRU engines to comply with the low emission TRU performance standards prior to December 31, 2008 (December 31, 2009 for model year 2002 only). This incentive would allow such engines to postpone, by up to three years, the date by which that engine must be replaced or retrofitted to comply with the ultra low TRU performance standard.

#### *Compliance Provision*

Staff is proposing the use of an ARB identification numbering system. The I.D. numbers would include codes that indicated key compliance information such as model year of engine. California-based TRUs would be required to have I.D. numbers. For out-of-

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<sup>2</sup> ARB will conduct a technology review in 2007 and determine what PM emission standard is appropriate and recommend amendment to the ATCM as needed.

state based TRUs that operate in California, the use of ARB I.D. numbers would be voluntary. However, without such a coding system an inspector would have to physically open up the TRU compartment to verify that the unit contains a complying engine or retrofit system. This could result in significant downtime for the truck. The coding allows a quick inspection so that the trucks can get back on the road as quickly as possible. Given this situation, we anticipate that most owners of out-of-state TRUs will obtain ARB I.D. numbers for their TRUs.

#### *Initial and Annual Reporting Requirements*

The proposed ATCM contains two reporting provisions. Owners of TRUs operating in California would be required to submit an initial report to ARB that provide information about the TRUs they operate in California. Updates would need to be provided as TRUs are purchased or sold. The information is needed to assist in the implementation of the ATCM. The second reporting provision applies to large facilities where TRUs operate. Distribution facilities with 20 or more doors serving a refrigerated storage area would be required to submit a one-time report to ARB. This information is needed to evaluate the overall effectiveness of the regulation in reducing diesel PM concentrations near facilities where numerous TRUs operate.

#### *Warranty*

If a Verified Diesel Emission Control Strategy (VDECS) fails during the warranty period, the owner or operator of the TRU or TRU generator set must replace it with the same VDECS or a higher verification classification level, if available.

If a VDECS fails outside its warranty period and a higher verification classification level VDECS is available, then the owner or operator of the TRU or TRU generator set shall upgrade to the highest level VDECS that is determined to be cost-effective by the Executive Officer.

#### *Other Comparable Federal Regulations*

There are no federal regulations comparable to the Proposed ATCM for in-use TRUs; however, the ATCM relies heavily on adoption and implementation of the proposed U.S. EPA's Tier 4 nonroad emissions standards for new diesel engines since engine replacement is one of many compliance pathways.

### **AVAILABILITY OF DOCUMENTS AND AGENCY CONTACT PERSONS**

The Board staff has prepared a Staff Report: Initial Statement of Reasons (ISOR) for the proposed regulatory action, which includes a summary of the potential environmental and economic impacts of the proposal, if any. The ISOR is entitled, *Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units and TRU Generator Sets, and Facilities Where TRUs Operate.*

Copies of the ISOR and the full text of the proposed regulatory language may be obtained from the Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, 1<sup>st</sup> Floor, Sacramento, CA 95814, (916) 322-2990, at least 45 days prior to the scheduled hearing which will begin on December 11, 2003.

Upon its completion, the Final Statement of Reasons (FSOR) will also be available and copies may be requested from the agency contact persons in this notice, or may be accessed on the web site listed below.

This notice, the ISOR and all subsequent regulatory documents, including the Final Statement of Reasons, when completed, are available on the ARB Internet site for this rulemaking at <http://www.arb.ca.gov/regact/trude03/trude03.htm>.

Inquiries concerning the substance of the proposed regulations may be directed to the designated agency contact persons, Tony Andreoni, Manager of the Process Evaluation Section, Emission Assessment Branch, Stationary Source Division at (916) 324-6021 or by email at [tandreon@arb.ca.gov](mailto:tandreon@arb.ca.gov), or Rod Hill, Air Resources Engineer, Stationary Source Division at (916) 323-0440 or by email at [rhill@arb.ca.gov](mailto:rhill@arb.ca.gov).

Further, the agency representative and designated back-up contact persons to whom nonsubstantive inquiries concerning the proposed administrative action may be directed are Artavia Edwards, Manager, Board Administration & Regulatory Coordination Unit, (916) 322-6070, or Alexa Malik, Regulations Coordinator, (916) 322-4011. The Board has compiled a record for this rulemaking action, which includes all the information upon which the proposal is based. This material is available for inspection upon request to the contact persons.

If you are a person with a disability and desire to obtain this document in an alternative format, please contact the ARB's Clerk of the Board at (916) 322-5594 or [sdorais@arb.ca.gov](mailto:sdorais@arb.ca.gov) as soon as possible. TTY/TDD/Speech-to-Speech users may dial 7-1-1 for the California Relay Service.

## **COSTS TO PUBLIC AGENCIES AND TO BUSINESSES AND PERSONS AFFECTED**

The determinations of the Board's Executive Officer concerning the costs or savings necessarily incurred by public agencies and private persons and businesses in reasonable compliance with the proposed regulations are presented below.

Pursuant to Government Code section 11346.5(a)(5), the Executive Officer has determined that the proposed regulations will possibly impose a mandate on local agencies or school districts. The Executive Officer has further determined pursuant to Government Code section 11346.5(a)(6) that the proposed regulations will result in some additional costs to the Air Resources Board and other state agencies. In addition, the Executive Officer has also determined pursuant to Government Code section 11346.5(a)(6) that the proposed regulatory action will possibly create a cost to any local agency or school district that is required to be reimbursed under Part 7 (commencing with section 17500) of Division 4 of the Government Code or other nondiscretionary

costs or savings imposed on local agencies. The Executive Officer further determined that the proposed regulations will not result in costs or savings in federal funding to the state.

#### Fiscal Impact on Local Agencies or School Districts

The Executive Office has determined that the proposed regulatory action will have an impact, although insignificant, on costs to local agencies or school districts since it will include a mandate a very small number of local agency or school district owned TRUs. Some minor costs will occur for the few local agencies and school districts that own or operate TRUs. We believe that the reporting costs to local agencies and to school districts will be negligible since many will be exempt from the facility reporting requirements, and the estimated operator reporting cost will be minor. Some costs will also occur in 2008 to upgrade TRUs to comply with the requirements in the ATCM. The capital cost of installing equipment in 2008 to comply with the ATCM will be between \$2,000 and \$20,000 per TRU. However, the cost directly attributable to the ATCM is assumed only to range between \$2,000 to \$6,000, since most of the TRUs that will have to comply in 2008 will be at the end of their useful life and would be scheduled for replacement in any event. Statewide, the total number of TRUs owned or operated by local agencies and school districts are not known, but are expected to be very few. Thus, the cost impact to any local agency or school district should be very small.

#### Fiscal Impact on State Agencies or Federal Funding to the State

Some minor costs will occur for correctional facilities that own and operate TRUs. We believe that the reporting costs to correctional facilities will be negligible since many will be exempt from the facility reporting requirements, and the estimated operator reporting cost will be minor. Some costs will also occur in 2008 to upgrade TRUs they own to meet the requirements in the ATCM. The capital cost of installing equipment to comply with the ATCM in 2008 will be between \$2,000 and \$20,000 per TRU. However, the cost directly attributable to the ATCM is assumed only to range between \$2,000 to \$6,000 per TRU since most of the TRUs that will have to comply in 2008 will be at the end of their useful life and would be scheduled for replacement in any event. The Department of Corrections (Corrections) owns approximately 20 TRUs. We believe that capital costs for Corrections in 2008, that are attributable to the ATCM, is between \$40,000 and \$120,000. Since these costs are insignificant compared to their overall budget, we believe that the costs will be able to be met within the existing budget.

The proposed ATCM will impose a cost to the ARB for TRU enforcement, for records management, and for issuing ARB identification numbers to operators or owners of TRUs. Initial costs to the ARB primarily involve developing the TRU database for tracking in-use TRUs and facility operations throughout the state. Additional cost will result from enforcement activities through the ARB's existing Heavy-Duty Vehicle Inspection program performed at various weigh stations throughout California and at various food distribution or cold storage facilities. The ARB is expected to incur annual costs to implement the TRU ATCM starting in the 2005 FY, but anticipates that the costs will be absorb within their existing budgets.

The Executive Officer has also determined that the proposed regulatory action will not create costs or savings in federal funding to the State.

### Fiscal Impact to Businesses

The Executive Officer has made an initial determination that the proposed regulatory action will not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states, or on representative private persons.

In developing this regulatory proposal, the ARB staff evaluated the potential economic impacts that representative private persons or businesses might incur in reasonable compliance with the proposed ATCM. The Executive Officer has initially assessed that the proposed regulatory action will affect the businesses that operate TRUs or have facilities that are frequented by TRUs. The costs for businesses and individuals that operate TRUs or TRU generator sets are estimated to be in the range of \$101 to \$168 million, over a 13-year period, which results in a cost-effectiveness between \$10 and \$20 per pound of diesel PM reduced.

In accordance with Government Code sections 11346.3 and 11346.5(a)(10), the Executive Officer has determined that the proposed regulatory action may lead to creation or elimination of some businesses, the creation of new businesses or elimination of existing businesses within the State of California, or the expansion of businesses currently doing business within the State of California. Due to the long lead-time for compliance, wide range of compliance options, and small business exemption, we believe that most businesses will be able to meet the compliance costs. However, it is possible that a small number of businesses (those with marginal profitability) may experience financial difficulty in complying with the regulation. Businesses that may be created include those that furnish, install, and maintain diesel emission control systems, as well as those that provide alternative compliance strategies. Engine manufacturers, TRU manufacturers, and TRU sales and service dealers are likely to see an increase in business due to accelerated attrition and other options to meet the in-use requirements of the regulation.

The Executive Officer has also determined, pursuant to title 1, CCR, section 4, that the proposed regulatory action will have some impact on small businesses. We believe that a significant proportion of the TRU owners and operators are likely to be small businesses because approximately 80 percent of the TRU owners own 20 or less TRUs. Small business will incur costs in 2008 to retrofit and replace engines. ARB estimates the cost to a typical small business (own three TRUs) to be \$6,000 to \$60,000 in 2008. Of this total cost, ARB believes that \$2,400 to \$24,000 is attributable to the ATCM.

In accordance with Government Code sections 11346.3(c) and 11346.5(a)(11), the ARB's Executive Officer has found that the reporting requirements of the regulation that apply to businesses are necessary for the health, safety, and welfare of the people of the State of California.



In accordance with H&SC 43013(c), the Executive Officer has determined that the standards and other requirements in the proposed ATCM are necessary, cost-effective, and technologically feasible for agricultural operations (i.e., farm equipment).

A detailed assessment of the economic impacts of the proposed regulation can be found in the ISOR.

### Consideration of Alternatives

Before taking final action on the proposed regulatory action, the Board must determine that no reasonable alternative considered by the agency or that has otherwise been identified and brought to the attention of the agency would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action

### **SUBMITTAL OF COMMENTS**

The public may present comments relating to this matter orally or in writing at the hearing, and in writing or by e-mail before the hearing. To be considered by the Board, written submissions must be received **no later than 12:00 noon, December 10, 2003**, and addressed to the following:

Postal mail is to be sent to:

Clerk of the Board  
Air Resources Board  
1001 "I" Street, 23<sup>rd</sup> Floor  
Sacramento, California 95814

Electronic mail is to be sent to: [trude03@listserv.arb.ca.gov](mailto:trude03@listserv.arb.ca.gov) and received at the ARB **no later than 12:00 noon, December 10, 2003**.

Facsimile submissions are to be transmitted to the Clerk of the Board at (916) 322-3928 and received at the ARB **no later than 12:00 noon, December 10, 2003**.

The Board requests but does not require 30 copies of any written submission. Also the ARB requests that written, facsimile, and e-mail statements be filed at least 10 days prior to the hearing so that ARB staff and Board Members have time to fully consider each comment. The ARB encourages members of the public to bring to the attention of staff in advance of the hearing any suggestions for modification of the proposed regulatory action.

### **STATUTORY AUTHORITY**

This regulatory action is proposed under the authority granted to the ARB in the California Health and Safety Code sections 39600, 39601, 39618, 39658, 39659, 39666, 39667, 43013, and 43018. This action is proposed to implement, interpret, or

make specific, Health and Safety Code sections 39618, 39650, 39658, 39659, 39666, 39667, 40717.9, 43013, and 43018.

### **HEARING PROCEDURES**

The public hearing will be conducted in accordance with the California Administrative Procedure Act, Title 2, Division 3, Part 1, Chapter 3.5 (commencing with section 11340) of the Government Code.

Following the public hearing, the ARB may adopt the regulatory language as originally proposed or with non-substantial or grammatical modifications. The Board may also adopt the proposed regulatory language with other modifications if the modifications are sufficiently related to the originally proposed text that the public was adequately placed on notice that the regulatory language as modified could result from the proposed regulatory action. In the event that such modifications are made, the full regulatory text, with the modifications clearly indicated, will be made available to the public for written comment at least 15 days before it is adopted.

The public may request a copy of the modified regulatory text from the ARB's Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, 1<sup>st</sup> Floor, Sacramento, California 95814, (916) 322-2990.

CALIFORNIA AIR RESOURCES BOARD

/s/

Catherine Witherspoon  
Executive Officer

Date: October 14, 2003

*"The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our Web-site at [www.arb.ca.gov](http://www.arb.ca.gov)."*