

## UPDATED INFORMATIVE DIGEST

### ADOPTION OF A REGULATION TO REDUCE GREENHOUSE GAS (GHG) EMISSIONS FROM HEAVY-DUTY VEHICLES

**Sections Affected:** Adoption of new sections to 95300 to 95311, title 17, California Code of Regulations (CCR).

#### **Background**

In 2006, the legislature passed and Governor Schwarzenegger signed the California Global Warming Solutions Act of 2006 (AB 32; Stats. 2006, chapter 488). In AB 32, the Legislature declared that global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The Legislature further declared that global warming will have detrimental effects on some of California's largest industries including agriculture and tourism, and will increase the strain on electricity supplies. While national and international actions are necessary to fully address the issue of global warming, the Legislature recognized that action taken by California to reduce emissions of greenhouse gases will have far-reaching effects by encouraging other states, the federal government, and other countries to act.

AB 32 creates a comprehensive, multi-year program to reduce GHG emissions in California, with the overall goal of restoring emissions to 1990 levels by the year 2020. AB 32 requires the Air Resources Board (ARB or the Board) do many things, including:

- Establishing a statewide GHG emissions cap for 2020, based on 1990 emissions;
- Adopting a scoping plan by January 1, 2009, indicating how emission reductions will be achieved from significant GHG sources via regulations, market mechanisms and other actions;
- By June 30, 2007, adopting a list of discrete, early action GHG emission reduction measures that can be implemented and enforced no later than January 1, 2010; and
- By January 1, 2010, adopting regulations to implement the measures identified on the list of discrete early action measures.

In 2007 the Board approved a list of nine discrete early action measures. The list includes a measure entitled: "Smartway Truck Efficiency." The regulation is designed to implement this measure.

## **Description of the Regulatory Action**

The purpose of the regulation is to reduce GHG emissions by requiring some of the new and existing on-road tractors and trailers operating on California highways to be equipped with technologies that would result in improved fuel efficiency, and thus reduce GHG emissions. The regulation expressly applies to owners of tractors pulling 53-foot or longer box-type trailers and owners of 53-foot or longer box-type trailers, drivers of tractors pulling 53-foot or longer box-type trailers, motor carriers and California-based brokers that dispatch 53-foot or longer box-type trailers, and California-based shippers that ship freight in 53-foot or longer box-type trailers.

The regulation references a federal voluntary program, called the United States Environmental Protection Agency (U.S. EPA) SmartWay Transport Partnership Program, which is designed to improve the environmental performance associated with the ground freight delivery system in the United States. In particular, the SmartWay program approves technologies, such as aerodynamic equipment and low-rolling resistance tires, and certifies tractors and trailers that incorporate these technologies. The regulation relies on the SmartWay program to establish mandatory California tractor and trailer requirements. More specifically, the regulation requires the use of SmartWay certified tractors and trailers, SmartWay approved aerodynamic technologies and low-rolling resistance tires. Examples of aerodynamic technologies include integrated roof fairings on sleeper-cab tractors; and side skirts, gap fairings, and rear trailer fairings on box-type trailers.

The regulation provides GHG and oxides of nitrogen (NO<sub>x</sub>) emission reductions throughout California. Tractors and trailers that comply with the proposed regulation by proper use of aerodynamic equipment and low-rolling resistance tires are expected to achieve a fuel efficiency improvement ranging from 7 to 10 percent. Staff estimates that this improvement in fuel efficiency will result in a reduction in tailpipe GHG emissions of approximately 1 million metric tons of carbon dioxide-equivalents (MMT CO<sub>2</sub>e) statewide in 2020 and approximately 6.7 MMT CO<sub>2</sub>e nationwide. Staff estimates that the cumulative GHG reductions in California from 2010 to 2020, as new fuel efficient tractors and trailers are introduced and in-use tractors and trailers are retrofitted with fuel efficient technologies, will be reduced by a cumulative total of approximately 7.8 MMT CO<sub>2</sub>e statewide and approximately 52.1 MMT CO<sub>2</sub>e nationwide. Staff also estimates NO<sub>x</sub> reductions in California of 4.3 and 1.4 tons per day in 2014 and 2020, respectively. These reductions will help with progress toward attainment of National and State ambient air quality standards for particulate matter and ozone.

The regulation focuses on long-haul tractors, because the required technologies offer the most efficient improvements at highway speeds. This regulation establishes requirements for new and existing 53-foot or longer box-type trailers and the tractors that pull them. The regulation applies to both California-registered and out-of-state-registered tractors and trailers. The regulation defines a box-type trailer as a dry-van trailer or a refrigerated-van trailer. The regulation does not apply to tractors pulling other types of trailers (e.g., box-type trailers of lengths shorter than 53 feet, or tractors

pulling flatbed trailers, logging trailers, drop-frame trailers, curtain side trailers, or chassis trailers hauling shipping containers). Authorized emergency vehicles, military tactical support vehicles and drayage tractors have been provided an express exemption by ARB from the requirements under the regulation. An exemption has been provided for short-haul tractors and local-haul tractors and trailers in the regulation.

The regulation includes the following compliance schedules:

- Beginning January 1, 2010, a 2011 model year or subsequent model year tractor with a sleeper berth that pulls a 53-foot or longer box-type trailer on a California highway will be required to be a U.S. EPA certified SmartWay tractor. SmartWay does not currently certify a day cab tractor (without a sleeper berth), so daycab tractors would not be required to be SmartWay certified. Low-rolling resistance tires that meet U.S. EPA SmartWay specifications would be required, beginning January 1, 2010, for all affected 2011 and subsequent model year tractors, regardless of whether they have sleeper berths or not.
- Beginning January 1, 2012, a 2010 model year and earlier model year tractor with or without a sleeper berth that pulls a 53-foot or longer box-type trailer on a California highway will be required to be equipped with SmartWay approved low-rolling resistance tires. This will be the only retrofit requirement for tractors with model years 2010 and earlier, and will allow most 2010 or earlier model year tractors to use their existing tires for the remainder of their useful life before replacing them with low-rolling resistance tires.
- Beginning January 1, 2010, a 2011 model year and subsequent model year 53-foot or longer box-type trailer, including a refrigerated trailer, that is pulled by a tractor on a California highway will be required to be either a U.S. EPA certified SmartWay trailer or fitted with the SmartWay approved technologies described in the proposed regulation. Currently only dry-van trailers are U.S. EPA SmartWay certified. U.S. EPA has not developed specifications for refrigerated trailers, although they may do so in the future. Thus, at present, new, 2011 model year refrigerated trailers will be required to be retrofitted with SmartWay approved components as specified in the regulation.
- Beginning January 1, 2013, 2010 model year and earlier model year 53-foot or longer box-type trailers would be required to be retrofitted with the SmartWay approved technologies described in the regulation. In lieu of meeting the January 1, 2013, compliance date, the trailer owner could choose to comply with an optional trailer fleet compliance schedule.

There are two optional trailer fleet compliance schedules based on the size of the trailer fleet. These would allow fleets until 2015 or 2016 to retrofit all trailers that are subject to the regulation. A separate optional schedule is provided for refrigerated-van trailers with diesel-fueled transport refrigeration units; this schedule provides additional years for compliance because owners of these vehicles will be subjected to another ARB

regulation, the Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets, and Facilities Where TRUs Operate. Complete details are provided in the regulation, Staff Report, and Final Statement of Reasons, which are available at:  
<http://www.arb.ca.gov/regact/2008/ghghdv08/ghghdv08.htm>.

## **The Board's Action**

At its December 11, 2008 public hearing, the Air Resources Board adopted Resolution 08-44 (Resolution) approving the adoption of the regulation originally proposed in the Staff Report released on October 24, 2008, with modifications that were proposed by staff and made available to the public at the hearing. These modifications, included as Attachment B to the Resolution, were the result of suggestions by ARB staff and by public commenters and included language: (1) clarifying that livestock trailers and refuse trailers are exempt from the requirements of the regulation; (2) redefining "owner" to facilitate the enforcement of the regulation; (3) streamlining the trailer aerodynamic equipment and low-rolling resistance tire requirements; (4) restructuring the compliance schedule requirements for 2010 or previous model year refrigerated-van trailers resulting in the elimination of some of the recordkeeping requirements for the owners of these trailers; (5) for clarity, redefining "short-haul" to mean travelling no more than 50,000 miles per year and adding the term "local-haul" to mean travelling within a 100-mile radius of the local-haul base; (6) removing the Executive Officer approval criteria from the short-haul/local-haul tractor and trailer exemption requirements; (7) restructuring the optional trailer fleet compliance schedule requirements for clarity, and modifying the calculation methodology and general requirements.

The Board directed the Executive Officer to incorporate the approved modifications to the initially noticed text, along with such other conforming modifications as may be appropriate, and to make such modifications available for a supplemental comment period of at least 15 days. The Board further provided that the Executive Officer shall consider such written comments as may be submitted during this period, shall make such modifications as may be appropriate in light of the comments received, and shall present the regulations to the Board for further consideration if warranted.

The Board also directed the Executive Officer to take appropriate steps to ensure that the requirement to use SmartWay certified tractors would take effect only if the U.S. EPA establishes performance-based certification requirements for U.S. EPA certified SmartWay tractors. On August 17, 2009, U.S. EPA did establish interim requirements for tractor manufacturers to add SmartWay certified tractor models to the current list of SmartWay tractors. These interim requirements establish both design and performance-based requirements by allowing new tractor models to be certified if the fuel efficiency of the new tractor model meets or exceeds the fuel efficiency of at least one current SmartWay certified tractor model from any manufacturer. Fuel efficiency is to be determined using a modified version of the *Joint TMC/SAE J1321 Fuel Consumption Test Procedure Type II RP J1321 (October, 1986)*. The interim

requirements are set forth in the following two documents: Interim Requirements to Determine Eligibility of SmartWay Tractors, EPA-420-F-09-045, August 2009; and Interim Test Method for Verifying Fuel-Saving Components for SmartWay: Modifications to SAE J1321, EPA-420-F-09-046, August 2009. Because these documents introduce a performance-based standard for U.S. EPA certified SmartWay tractors, ARB has retained the tractor component in the regulation. ARB solicited public comments on the interim requirements and interim test method announced by U.S. EPA in August, 2009.

## **Fifteen-Day Changes**

Text of the modifications to the originally proposed regulation was made available for a supplemental 15-day comment period by issuance of a “Notice of Public Availability of Modified Text and Availability of Additional Documents.” This notice and the modified regulatory language were released on September 17, 2009. All references to California Code of Regulations sections 95300 through 95312 are two new sections that are proposed to be added to subarticle 1, article 4, subchapter 10, chapter 1, division 3 of title 17.

A variety of changes were made to the originally proposed regulation to clarify the reporting requirements and address comments received during the initial 45-day comment period and at the Board hearing. These changes included, but were not limited to: modifications to clarify applicability provisions and to add and delete some definitions; changes to clarify requirements and compliance deadlines; changes to clarify exemptions for short-haul tractors, local-haul tractors and local-haul trailers; and changes to clarify requirements for optional trailer fleet compliance schedules.

Changes also included supporting documents and information related to SmartWay Tractor requirements. In accordance with Government Code section 11347.1, staff added to the rulemaking record and invited comments on the following documents that support the proposed action:

- Interim Requirements to Determine Eligibility of SmartWay Tractors, EPA-420-F-09-045, August 2009, which can be downloaded at <http://www.epa.gov/smartway/transport/documents/tech/interim-tractor-rqmts.pdf>
- Interim Test Method for Verifying Fuel-Saving Components for SmartWay: Modifications to SAE J1321, EPA-420-F-09-046, August 2009, which can be downloaded at <http://www.epa.gov/smartway/transport/documents/tech/interim-test-method-j1321.pdf>

A more complete listing of the changes to the regulation is included in the Notice of Public Availability of Modified Text, dated September 17, 2009. The notice and the revised regulation in underline/strikeout format are available online at the following ARB website:

<http://www.arb.ca.gov/regact/2008/ghghdv08/ghghdv08.htm>

## **COMPARABLE FEDERAL REGULATIONS**

Currently there are no comparable mandatory federal regulations to control GHG emissions from motor vehicles. As described above, the proposed regulation is based on a voluntary federal program, the U.S. EPA SmartWay Transport Partnership Program.