

## California's Process to Reduce Health Risks Posed by Toxic Air Contaminant Emissions from Diesel-fueled Engines

The Air Resources Board (ARB) establishes control measures to protect the public's health from exposure to toxic air contaminants (TACs), those air pollutants that may cause or contribute to an increase in death or serious illness.

### The Process

Once a substance has been identified as a TAC, actions to reduce risk are instituted. This is referred to as risk management.

During this phase, the ARB, in consultation with the local air districts, affected industries, and the public, determines if any further regulatory actions are needed to protect the public from exposures to an identified TAC. The first step is to prepare a report on the need and appropriate degree of control (the "needs assessment") for the TAC. This report is required by law and must include the following information:

- present and potential future emissions and associated risks;
- physical and chemical characteristics of the TAC in ambient air;
- number and categories of emission sources;
- available control technologies;
- costs for reducing emissions;
- alternative sources of emission reductions;
- the potential adverse health, safety, or environmental impacts associated with the implementation of a control measure; and
- consideration of all past and current measures that affect exposure.

Based on this report, if cost effective measures are identified that will reduce public exposure, then specific control measures are developed in a full and open public process.

In the case of TAC emissions from diesel-fueled engines (particulate matter or organic gases), staff in conducting this needs assessment will not be considering a ban on the use of diesel fuel or diesel engines. Rather, staff will focus on technological opportunities, beyond those already in place, to reduce further public exposures to TAC emissions from diesel-fueled engines.

### Advisory Committee

To ensure full opportunity for public consultation and participation in the needs assessment process, ARB staff invited interested industries, associations, environmental groups, other governmental agencies such as the U.S. Environmental Protection Agency, local air districts, and other interested parties to serve on an advisory committee to address TACs from diesel-fueled engines (**Advisory Committee**).

The Advisory Committee serves as a forum for on-going communication, cooperation, and coordination in the identification of additional opportunities to reduce further TAC emissions from diesel-fueled engines.

### Risk Management Process



## **Existing Control Measures**

The Board has already adopted many regulations that reduce particulate matter, nitrogen oxides (NOx), and sulfur oxides (SOx) emissions from diesel-fueled engines. These include:

- a requirement for low sulfur/low aromatic diesel fuel that reduces particulate matter, NOx, and SOx emissions (October 1993);
- emission standards that restrict the amount of particulate matter emitted by new diesel cars, trucks, urban buses, and heavy-duty trucks (phased-in from 1982 through 1996);
- emission standards for NOx emissions from diesel cars, trucks, and urban buses (phased in from 1984 through 2004);
- the roadside testing of heavy-duty on-road vehicles for excessive particulate matter emissions (1991) and a requirement for fleet inspection and maintenance of heavy-duty vehicles (summer 1998); and
- emission standards that restrict the amount of particulate matter and NOx that can be emitted from many 1995 and newer diesel utility engines.

## **Planned Control Measures**

- requirement to use low sulfur/low aromatic diesel fuel in locomotives.
- \$25 million incentive program (the Moyer Program) to reduce TAC emissions from heavy-duty diesel-fueled engines by providing grants for the incremental cost of lower-emission engines.

## **Possible Future Control Measures**

If, after considering existing and planned programs, cost effective additional measures are identified to reduce further public exposure to TAC emissions from diesel-fueled engines, such measures will be developed in a public process that allows for full participation by all interested parties. Additional strategies that may be considered during the needs assessment include:

- reducing emissions from new diesel-fueled engines;
  - NOx and PM standards for on-road diesel-fueled engines
  - PM standards for cars and light-duty trucks
  - PM standards for off-road diesel-fueled engines
  - further diesel fuel reformulation
- maintaining low emissions in-use;
  - educational programs for truck owners and operators, service technicians, and engine mechanics
  - additional in-use compliance programs to include testing and recall of heavy-duty trucks
- and incentive programs such as accelerated turnover of in-use equipment and greater use of alternative fuel technologies.
  - early introduction of cleaner engines through economic incentives
  - alternative fuel engine introduction, such as liquefied or compressed natural gas-powered heavy-duty engines

Again, a ban on diesel fuel or diesel engines would not be considered.

For more information on TAC emissions from diesel-fueled engines, call the ARB Public Information Office at (916) 322-2990 or check ARB's web site at <http://www.arb.ca.gov>.