

Summary of State Measures

State regulatory actions under way:

There are several State initiated control measures under consideration by the State of Tennessee, and the Tennessee Air Pollution Control Board, which may accomplish large reductions in emissions. These may include proposed state regulatory or administrative decisions that would mandate or require actions by parties outside of state government. Some of these recommendations would necessitate changes to rules and regulations issued by the state Air Pollution Control (APC) Board, and some recommendations would require legislative revisions to current statutory authority. Other regulatory and administrative decisions could be made using current statutory authority.

Researchers at the University of Tennessee have evaluated a number of potential control measures. The control measures identified as the most effective for reducing NO_x and VOC emissions include some of the following: more stringent vehicle inspection and maintenance programs; controls on point sources that emit more than 50 tons per year of NO_x; statewide options for reducing engine idling and smoking; lower interstate speed limits; and others. These control measures are discussed in more detail below.

Inspection and maintenance (I&M) for light-duty vehicles

Currently, five Middle Tennessee counties operate a vehicle inspection and maintenance program for vehicles up to 8,500 GVWR (gross vehicle weight rating), and the city of Memphis tests vehicles up to 26,000 GVWR. These vehicles must pass emissions testing prior to vehicle registration renewal. Inspection and maintenance programs provide significant reductions of NO_x and VOC. The current APC rules at Paragraph 1200-3-29-.03(1) provide the authority to operate an I&M program in any county designated by the APC Board. Legislative amendments to *Tennessee Code Annotated*, Section 55-4-30, are necessary and are underway to provide for registration renewal enforcement of the I&M testing requirement in the counties designated by the APC Board or for those counties that choose to implement an I&M program.

Reasonably Available Control Technology (RACT) rule for NO_x

The APC Division has proposed a statewide rule that would require reasonably available control technology to reduce NO_x emissions from stationary sources that emit 50 or more tons per year of NO_x. The APC Board will act on this rule and other regulations for the 8-hour ambient ozone control strategy as a package. Ultimately, the board will decide if the NO_x RACT rule should be statewide, limited to the counties within a metropolitan statistical area (MSA), to EAC counties, or just to those counties designated as nonattainment for the 8-hour ozone standard.

Reduce engine idling

According to the U.S. Environmental Protection Agency, a typical heavy-duty truck or bus can burn approximately one gallon of diesel fuel for each hour it idles, thereby generating significant amounts of pollution, wasting fuel and causing needless engine wear. Diesel exhaust contributes to ozone formation and haze, and idling trucks and buses are often an unnecessary source of harmful air pollution.

Idling restrictions would reduce driver and passenger exposure to elevated concentrations of air pollutants. This is especially important to our children who are exposed daily to harmful diesel exhaust from school buses. Also, any reductions of NO_x and VOC are beneficial and would improve air quality in the immediate vicinity. This could be significant in areas with large truck stops where many vehicles idle for extended periods. Additionally, there would be a fuel savings by not idling for extended periods. The Board would need to consider exemptions and reasonably available anti-idling alternatives for circumstances where power sources are needed for heating, cooling and other important functions.

Anti-tampering and anti-smoking rules for vehicles

The state has had lengthy discussions with EPA on the implementation and merits of an anti-tampering program in areas of the state where an IM program does not exist. Part of the problem the Air Pollution Control Agency has had regarding this measure is the air pollution emission reduction credit that EPA will approve for operating a state anti-tampering enforcement program. However, the state and the APC Board are concerned about tampering of emissions control equipment by automobile repair facilities and dealerships. The currently proposed rule also contains a provision for certification requirements for vehicles offered for sale, rent or lease. Legislative amendments would be necessary to address certification requirements for vehicles being sold in Tennessee.

Some local air pollution control programs in Tennessee, such as the Metropolitan Nashville-Davidson County program, prohibit smoking vehicles. The State has drafted regulations to prohibit excessive visible emissions from motor vehicles.

Reduce speed limits on rural interstate highways

Researchers at the University of Tennessee-Knoxville have determined that the highest emissions of NO_x from on-road mobile sources occur at high vehicle speeds. This is especially true for heavy-duty diesel vehicles, which typically contribute about 60 percent of the NO_x emissions on Tennessee interstates. Lowering the speed limit for heavy-duty diesel trucks to 55 mph on rural interstates could significantly reduce NO_x emissions.

Setting speed limits is an administrative function of state government. The APC Board has no regulatory authority over setting speed limits for automobiles or trucks; however, the Board recognizes the air quality benefits of such a restriction on truck speeds. As evidenced by recent actions in the State of Texas, lowering speed limits for air quality control purposes can result in significant opposition by the general public. It is unlikely that the state will pursue a lowering of speed limits unless it can be shown that it is the last viable measure to bring an area into attainment.

Considerations:

- One option is to consider lowering the speed limit on those days where high ozone levels are forecasted or during ozone season.
- Safety and enforcement concerns have been expressed about having different speed limits for large trucks than for other vehicles.
- The Tennessee Trucking Association testified before the APC Board that it would support lowering the speed limit for all vehicles.

- Lower speed limits would probably increase fuel economy and improve safety.
- The costs of lowering the speed limit are difficult to assess; however, there would be costs to state government for signage and costs to citizens for extra travel time.

Develop a diesel retrofit program

Controlling emissions from heavy-duty diesel engines will achieve significant reductions in NOx and fine particle pollution. New federal standards for diesel fuel and diesel engines will have a significant role in reducing emissions from new on-road diesel engines; however, these new standards will not have an impact on existing heavy-duty diesel engines. Because diesel engines typically have a useful life of 20 or more years, additional measures to reduce exhaust emissions from existing on-road and off-road diesel engines may yield significant pollution reduction benefits.

The state could lead an effort to establish a program to encourage and assist local and state agencies and private companies to upgrade or retrofit diesel engines that do not meet 2007 federal engine standards. This program should especially target—

- School buses
- Mass transit buses
- Heavy-duty diesel engines in state fleets (on- and off-road)
- Heavy-duty diesel engines in local government fleets (on- and off-road)

First priority should be given to those vehicles in designated nonattainment areas and those vehicles whose emissions may directly affect sensitive populations, such as school children. In this regard, the state of Tennessee could take a leadership role in assisting local government efforts to retrofit (or perhaps replace) hundreds of diesel school buses. Providing cleaner transit protects the health and safety of our children. Likewise, using cleaner fuels and technologies in mass transit system buses will help improve air quality in urban areas.

Considerations:

- Although effective at reducing diesel exhaust emissions, retrofit technology is expensive. For example, current cost estimates for installing diesel particulate filters vary from \$5,000 to \$8,000 per unit, depending on a variety of factors (e.g., age and type of engine).
- Dedicated funding is needed to encourage fleet owners to install retrofit technology. The State is continuing to look for diesel retrofit funding opportunities, such as grant programs. Another initiative is an “Adopt-A-School-Bus” program, whereby local school systems partner with local businesses and other interests to generate private donations to pay for school bus retrofits or replacements.