

# **NOACA Air Quality Public Advisory Task Force**

## **Mobile Source Work Group**

### **Third Preliminary Report**

**December 6, 2005**

#### **Introduction**

The NOACA Air Quality Public Advisory Task Force established Work Groups for Mobile Sources, Point Sources, Area Sources, Long-Term Planning Strategies, and a Public Health Forum on air pollution. Together, these Work Groups will assist the Task Force in creating recommendations to the Ohio Environmental Protection Agency (Ohio EPA) for inclusion in the State Implementation Plans (SIPs) for both ozone and fine particulates (PM<sub>2.5</sub>), thus helping Northeast Ohio to come into attainment for these criteria air pollutants.

The Task Force and the Work Groups together will enable NOACA to assist the region to plan for future growth, to protect the public health, and to comply with federal law.

#### **Meetings**

The Mobile Source Work Group met on August 10, 2005, August 22, 2005, September 13, 2005, October 13, 2005, and November 7, 2005, each time from 1:30 – 3:30 PM at NOACA's offices. The Work Group will meet next on December 15, 2005.

#### **Scope of Work**

The Mobile Source Work Group is exploring potential emission reduction strategies for sources of air pollution associated with cars, trucks, buses, and other on-road vehicles, as well as construction equipment and other non-road vehicles.

Their studies include the range of topics that cover fuels, including gasoline, diesel, and alternative fuels, plus transportation control measures, engine design changes, and regional highway planning efforts.

#### **Emission Reduction Strategies / Modeling Efforts**

Fuels: As noted in a previous report, the Work Group has reviewed emission reductions associated with the distribution of a lower RVP fuel during the summertime for the 8 county nonattainment area and for three additional “collar” counties (Stark, Mahoning, and Trumbull). These fuels will be modeled by Ohio University to determine what impact they would have in the overall airshed for Northeast Ohio. The Mobile 6.2 model reductions associated with each of these fuels are included in the Work Group's previous report.

#### **I/M Program (E-Check)**

Ashtabula County: The Work Group has asked staff to obtain Mobile 6.2 modeling runs from the Ohio Department of Transportation for Ashtabula County, which is not currently part of the E-Check program, although it is part of the nonattainment area. The Work Group will examine

the difference between OBD testing only, which is for 1997 cars and newer, compared to OBD testing plus ASM testing for pre-1997 vehicles, which is the complete test as it is used in the rest of the nonattainment area. ODOT will have the figures by the end of December.

Changes to E-Check: Glenn Luksik of the Ohio EPA reported on changes coming to the E-Check program in January 2006, resulting from changes made by the Ohio Legislature. The Work Group was informed that the test would become free to the public because the cost will be paid out of the state's tobacco settlement funds.

In addition, there will no longer be a requirement that used cars be tested at E-Check within a few weeks of the sale. Instead, the car or truck will remain in the two-year cycle in which it started, meaning testing might not occur for as much as two years after the sale. A legislative amendment that used car dealers E-Check cars before re-sale was defeated.

Finally, the exemption period will be changed from 2 years to 4 years, meaning that cars 4 years old or newer will not have to be tested at E-Check.

Possible Enhancements: The Work Group discussed enhancing the E-Check program in Northeast Ohio by moving to the ASM 2525 Final Standards for pre-1996 vehicles, which are tested on a dynamometer. The Mobile 6.2 figures for such a change were reviewed, and such a change would produce 0.31 tons per day (tpd) reduction in VOCs and 0.43 tpd reduction in NOx for the 5-county NOACA area, plus the reductions from Summit, Portage, and Ashtabula counties. The enhancement might result in a much higher failure rate for older vehicles, even as high as 1-in-4.

The Work Group also reviewed the Mobile 6.2 modeling figures for raising the repair threshold before a waiver could be issued. Such a change to the program only resulted in 0.03 tpd reduction in VOCs and 0.03 tpd reduction in NOx in the 5-county NOACA area.

NOx Controls for Trucks and Buses: The Work Group heard presentations on emulsified diesel fuel (PuriNOx, made by Lubrizol), as well as fuel-borne catalysts (ACES II), both of which offer some NOx reductions in diesel engines. Other products also exist in the open market, some of which are USEPA-certified. PuriNOx is USEPA-certified for its summertime blend, which is used in Texas. Its wintertime blend is not yet USEPA-certified. ACES II is not yet USEPA-certified.

The cost of creating a market for all USEPA-certified products was discussed, in which the Work Group noted that Texas had to provide grant money for smaller companies wishing to take the certification test, so that there was a "level playing field" for all competing products.

The Work Group asked for further information on the types of vehicles that could benefit from these fuels, even if the NOx reductions were small. Particulate matter reductions were also seen, and the Work Group intends to review this group of alternatives again during the PM<sub>2.5</sub> assessments.

The Work Group noted that other types of NOx controls for trucks and buses involved retrofits and rebuilds that were costly, some in the range of \$30,000 per vehicle. NOx retrofits were significantly more expensive than PM<sub>2.5</sub> filters and retrofits.

Anti-Idling Practices: The Work Group noted that anti-idling practices were cost-effective ways to control NOx from trucks and buses. It is anticipating review of the USEPA model ordinance on anti-idling.

Roadside Diesel Testing: The Work Group studied roadside diesel testing in which 22 other states test exhaust from diesel trucks for its opacity, which is a good estimate of the particulate matter being put out. Although Roadside Diesel Testing is a viable control for PM<sub>2.5</sub>, it does not produce any NOx readings and is not a NOx control.

The Work Group determined that assessing a fine of \$700 for each violation of such an opacity standard might generate as much as \$13 million annually across the state of Ohio, if testing were implemented at all weigh stations. The Work Group will continue to study this control as the PM<sub>2.5</sub> work progresses.

Transportation Control Measures: The Work Group is continuing to review transportation control measures for which staff can produce Mobile 6.2 modeling runs. It was noted that if 10% of all trips by car changed to trips by mass transit, there would be a 1.62 tpd reduction in VOCs and a 4.14 tpd reduction in NOx for the 5-county NOACA area, plus any additional reduction from Summit, Portage, and Ashtabula counties.

If 10% of all workers worked at home (telework) on any given day, the reductions would amount to 0.47 tpd of VOCs and 0.57 tpd of NOx, plus any additional reduction from Summit, Portage, and Ashtabula counties.

If the mass transit option plus the telework option were combined, the reductions would amount to 2.12 tpd of VOCs and 4.63 tpd of NOx, plus any additional reduction from Summit, Portage, and Ashtabula counties.

School Bus Retirements: The Cleveland Municipal School District reported that it had retired 270 buses, most of which had been scrapped. The remaining buses were to be retrofitted with PM<sub>2.5</sub> filters, giving the area a PM<sub>2.5</sub> benefit from the filters and an additional benefit to both PM<sub>2.5</sub> and ozone formation by the retirements.

The Work Group will pursue school bus retrofits further as part of the PM<sub>2.5</sub> work. The Work Group is aware that a bill is pending in the Ohio Legislature regarding anti-idling requirements for school buses.

### **Next Steps**

The Work Group will continue its review of fuels, I/M programs, and transportation control measures, quantifying the costs and benefits of each. The Work Group meets next on December 15, 2005.

### **Appendices**

Meeting Summary – November 7, 2005  
TCM Evaluation Matrix