

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

## **Point 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 Point Source Work Group met August 30, September 26, October 17, 2005, and November 15, 2005, each time from 1:30 – 3:30 PM at NOACA's offices. It will meet next on December 12, 2005, at 1:30 PM.

### **Scope of Work**

The Point Source Work Group is exploring potential emission reduction strategies for sources of air pollution associated with large sources permitted under Title V of the federal Clean Air Act Amendments of 1990, as well as smaller industrial, commercial, and residential sources of air pollution.

The scope includes energy efficiency and conservation, renewable sources of energy, and miscellaneous sources of air pollution that are commonly referred to as "area sources" such as consumer products, e.g. paints and cleaning solvents.

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

**Modeling and Growth Factors:** Expressing continuing concern about the growth factors used in the modeling runs produced by the Lake Michigan Air Directors' Consortium (LADCO) for Northeast Ohio, the Work Group reviewed the "Development of Growth and Control Factors for LADCO." The Work Group compared those factors to the last 10 years of employment data for Northeast Ohio, which revealed the following:

1.) Illinois, Indiana, Wisconsin, and Michigan experienced 5% growth in jobs; Ohio experienced 4% growth; but Northeast Ohio experienced only 1% growth.

2.) Illinois, Indiana, Wisconsin, and Michigan have lost 17% of their manufacturing jobs; Ohio has lost 21%; but Northeast Ohio has lost 29%.

Illinois, Indiana, Wisconsin, Michigan, and Ohio make up the five LADCO states. Please see the attached graph (Appendix B) for the source of this data, as prepared by NOACA staff.

The Work Group concluded that the LADCO growth factors might be over-estimating growth in Northeast Ohio. Further work needs to be done to determine whether an alternative methodology for growth factors could be used in customized Northeast Ohio modeling runs. NOACA staff has contacted LADCO's subcontractor for the files for the original growth factors, which will be shared with the Work Group.

The Work Group is pursuing the LADCO growth factors for both the point source and mobile source groups, as well as the list of other modeling inputs and assumptions that may incorrectly or unfairly disadvantage the Northeast Ohio nonattainment area.

The Work Group and Ohio EPA are attempting to compile all current air pollution controls for point sources that would be enforceable within the 2002-2009 timeframe and which might not already be part of the existing models.

### **Emission Reduction Strategies**

Electric Generating Units (EGUs): The Work Group continued its review of possible controls for point sources, beginning with electric generating units (EGUs). The Work Group noted that the proposed LADCO controls for EGUs would eliminate any option for individual sources to determine where controls should be installed, as controls at all plants would become necessary. A study on EGUs prepared for LADCO by the industry sector itself reports a high job loss associated with further controls on EGUs. The Work Group continued to discuss individual controls as they might apply to the power plants in the Northeast Ohio nonattainment area.

Gasoline Distribution Facilities (GDFs): The Work Group asked for numbers on gasoline distribution facilities (GDFs) in order to see whether better enforcement of Stage I vents might result in air quality benefits. It was found that there 858 GDFs in the Northeast Ohio nonattainment area. All are currently required to have Stage I vents on the fill pipes to capture vapors. The noncompliance rate is not yet known but will be estimated for comparison purposes. The Work Group has not yet discussed extending Stage I requirements to the "collar" counties surrounding the nonattainment area nor has it discussed increasing the control efficiency from 90% to 98%, as has been done in California.

Asphalt Plants: Ohio EPA reports that it has proposed a NOx RACT rule that will require low-NOx burners on those asphalt plants with a process design capacity of greater than 200 ton/hour. Asphalt plants less than or equal to a process design capacity of 200 tons/hour will not be required to use low-NOx burners. In addition, all plants will be required to perform

combustion burner “tune-ups” at least annually to ensure burner efficiency. Ohio EPA expects to see a NOx emission reduction from the rule of between 30-50%.

Industrial, Commercial, and Institutional (ICI) Boilers: Industrial boilers are generally smaller than boilers in the electric power industry. Industrial boilers typically have a heat input in the 10-250 mmBtu/hr range. However, industrial boilers can be as large as 1,000 mmBtu/hr or as small as 0.5 mmBtu/hr. Most commercial and institutional boilers are quite small, with 80% being smaller than 15 mmBtu/hr. The Ohio EPA is drafting a NOx RACT (reasonably achievable control technology) rule for ICI Boilers. The overall estimated NOx emission reductions will be between 50-75%. The variability is due to the different types of boilers and fuels used. The exact cut-offs for medium and large boilers have not yet been determined as they will be based on available technology to actually achieve the reductions.

Portable Fuel Containers (PFCs) (Gas Cans): The Ohio EPA is proposing a statewide rule governing specifications for new gas cans sold in Ohio. Across the state, the VOC reduction would amount to 6.26 tons/day. Northeast Ohio’s benefit would represent only a small portion of that gain. Ohio EPA is working on how to “phase in” use of the new gas cans, which are not as user-friendly as the current style, but which contain vapors to a great extent.

Auto Body Refinishing (HVLV Spray Guns): The coating applications for cars, trucks, and other vehicles, after their original paint has been applied, includes a variety of washes, primers, primer surfacers, primer sealers, and topcoats. Emissions of VOCs result from the evaporation of solvents during application, curing, and cleanup. Emissions are typically controlled through the use of compliant coatings, increased transfer efficiency, and control of clean-up solvents. Ohio EPA is proposing a rule that would require the new of high-efficiency transfer spray guns and improved work practices, for an estimated VOC reduction of 28% from current levels.

Cold Cleaners and Degreasers: Ohio EPA is proposing a rule that would strengthen RACT requirements on cold cleaning emissions by adopting limits on the volatility of the cleaning solvents themselves, with a maximum of 1 mmHg vapor pressure. Such limits are already in force in California, in several eastern states, and in Chicago, Illinois. The expected benefit in Ohio would be a 54% improvement in VOC emissions.

Alternative Energy – Wind Power: The Work Group heard a presentation from Green Energy Technologies Inc., which is installing a demonstration project involving a wind turbine (Smart Energy Tower) at both Cleveland-Hopkins Airport and at Case Western Reserve University. It was apparent that, when the towers are in production and available to large businesses, they can be used successfully as back-up electricity sources, reducing draw on the traditional grid. The towers are also planned to be used for cellular purposes, wireless Internet, and hydrogen production for some shuttle vehicles at both the airport and the university. The Work Group determined that wind power will not be in production soon enough to make an appreciable reduction in pollution for SIP purposes, but the electricity produced will be quantified for the SIP, regardless.

Alternative Energy – Nuclear Power: The Work Group heard an update from First Energy, which owns the nuclear facilities supplying electricity to the Northeast Ohio nonattainment

area. The Work Group determined that there were no plans to increase reliance on nuclear power; thus, there was no SIP benefit.

The Work Group is still pursuing voluntary measures as well as energy efficiency measures. In addition, further funding of enforcement programs will be studied.

**Emissions Credit Trading “Bank”:** The Work Group heard a presentation on the successful implementation of trading banks in other states. The “bank” would be a central location in which information about air emissions, reductions, credits, and offsets could be kept so that businesses that need offsets would know where they might be found and purchased. The Work Group determined that a “bank” would create a market value for NOx reductions, thus providing an incentive for existing sources to reduce their emissions. The Work Group learned that Ohio EPA was entertaining the same proposal.

### **Next Steps**

The Work Group will pursue individual point source control measures, including voluntary measures, grouped industry point sources measures, consumer energy-efficiency strategies to reduce electricity usage, and strategies for better enforcement of existing measures. The Work Group continues to gather information to refine and correct the emissions inventory and to assist in modeling efforts.

The Work Group meets next on December 12, 2005.

### **Appendices**

Appendix A - Meeting Summary – November 15, 2005

Appendix B – Jobs and Manufacturing in Ohio