

# NORTHEAST OHIO AREAWIDE COORDINATING AGENCY

## MEMORANDUM

**To:** NOACA Governing Board Members

**From:** Pamela L. Davis, Interim Manager, Environmental Division  
Amy M. Wainright, Esq., Environmental Planner

**Date:** October 31, 2007

**Re:** **PM<sub>2.5</sub> SIP Recommendations**

### Executive Summary

During 2006-2007, the NOACA Air Quality Public Advisory Task Force and the NOACA Air Quality Subcommittee worked to find possible emission reduction strategies to solve the region's fine particle air pollution problem. The region has until 2010 to achieve clean air, under a mandate from the United States Environmental Protection Agency (USEPA). Recommendations will be submitted to the Ohio Environmental Protection Agency (Ohio EPA).

The attached recommendations fall into the categories of:

- On-Road Diesel Fleets (public and private)
  - Retrofits and replacements
  - Anti-idling technologies
- Off-Road Diesel Fleets (public and private construction equipment)
  - Retrofits and replacements
  - Anti-idling technologies
- Alternative Fuels and Vehicles
- Fuel Testing
- Auto Safety Standards
- Public Transit Funding
- Industrial and Commercial Sources
- Residential Combustion
  - Outdoor wood-fired boilers
  - Open burning
  - Wood stove change-out program
- Miscellaneous, including Road Salt
- Long-Term Energy Solutions
  - Renewable Energy and Wind Power
  - Energy Audits
  - Manufacturing of Components

The following recommendations are presented for your approval and for subsequent submittal to the Ohio EPA for use in its fine particle State Implementation Plan (SIP) for Northeast Ohio. The recommendations were created by the NOACA Air Quality Public Advisory Task Force during 2006-2007 and have been modified, refined and endorsed by the Air Quality Subcommittee (AQSC), the Transportation Advisory Committee (TAC), and the Planning Advisory Committee (PAC). Background information appears at [www.noaca.org/pmsipplan.html](http://www.noaca.org/pmsipplan.html).

In addition to the recommendations outlined below, prioritization of SIP initiatives can be reflected in NOACA's Regional Transportation Investment Policy (RTIP), as was done following Board approval of the 8-Hour Ozone SIP recommendations. Such an amendment would read:

*"Congestion Mitigation and Air Quality (CMAQ) funding priority shall be given to mobile source programs and projects identified in NOACA's recommendations to the Ohio Environmental Protection Agency for the State Implementation Plan for attainment of the 8-Hour Ozone and Annual Fine Particle National Ambient Air Quality Standards (NAAQS)."*

Staff recommends that the emission reduction strategies and the RTIP amendment both be endorsed by the Board at the December 14, 2007 meeting.

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### **PM<sub>2.5</sub> SIP Recommendations**

#### **Fine Particle Nonattainment**

Six counties and one township in Northeast Ohio (Cuyahoga, Lake, Lorain, Medina, Portage, and Summit Counties, plus Ashtabula Township) are in nonattainment of the National Ambient Air Quality Standards (NAAQS) for fine particles. Fine particles are defined as particulate matter of less than 2.5 micrometers in diameter (PM<sub>2.5</sub>).

#### **Deadlines and the NOACA Stakeholder Process**

Northeast Ohio must demonstrate clean air by 2010. The Ohio Environmental Protection Agency (Ohio EPA) must submit a State Implementation Plan (SIP) to USEPA by April 2008. NOACA, through a Memorandum of Understanding with Ohio EPA, engaged in an air quality stakeholder involvement process to study potential emission reduction control strategies that could be included in the SIP for Northeast Ohio.

#### **NOACA's Ongoing Role**

As directed by the Governing Board, NOACA will have a role in implementation as strategies are identified for the SIP. Implementation will help to advance the Board's ten Transportation Goals. Economic competitiveness will be fostered (Goal #1) since it is important that the region reach attainment and begin to attract new businesses.

Goal #2, conserving transportation energy, will be enhanced through several of the SIP recommendations, including anti-idling strategies. Finally, Goal #8, the strengthening of intergovernmental and private sector relationships, will be furthered as strategies such as joint funding opportunities, "clean" diesel technologies, and truck stop electrification projects are realized.

NOACA may also amend its Regional Transportation Investment Policy, as it did for the Ozone SIP recommendations, to ensure the prioritization of PM<sub>2.5</sub> SIP initiatives. NOACA will then have an implementation role in providing education, outreach, prioritization of CMAQ applications, and responses to related service requests from NOACA's members.

### **Recommendations**

The Air Quality Public Advisory Task Force, after 10 months of study and stakeholder involvement, created mobile source and stationary source recommendations. The AQSC, TAC, and PAC reviewed them, their costs, and their potential impact on fine particle formation. The mobile sources include cars, trucks, buses, trains, airplanes, off-road diesel equipment, etc. Stationary sources include industries, small businesses, and miscellaneous non-transportation sources. The following strategies are recommended for endorsement and submittal to Ohio EPA:

### **Mobile Source Emission Reduction Strategies**

#### **1. Diesel On-Road Strategies**

- a. Mandatory Best Available Retrofit Technology (BART) on Government-Owned Vehicles, with Funding (*Requiring "clean diesel" replacements and retrofits, but only when a dedicated funding source has been identified*)
- b. Voluntary Diesel Emissions Reduction Programs for Private Vehicles (*Grant or loan programs, with educational component*)

#### **2. Diesel Non-Road Strategies – Retrofit Financing**

- a. Combining Private Financing with Government Grants (*Innovative funding for public and private non-road diesel retrofits*)
- b. Low Interest Financing (*Funding for state and local governments*)
- c. Technical Assistance to Construction Equipment Owners (*Education Outreach*)
- d. Information on Grant Programs (*State clearinghouse of information*)

#### **3. Diesel Non-Road Strategies – Public Works Projects**

- a. Emissions Performance Specifications in Contracts for Public Works Projects (*Ohio EPA and ODOT to create diesel emissions limits and/or equipment requirements and/or contract bonus points for construction equipment on all large public works projects*)
- b. Accelerated Use of Ultra-Low Sulfur Diesel Fuel or Biodiesel (*Required use of low-emitting fuels on all public works projects*)

- 4. Reduce Idling from Public Fleets**
  - a. Mandatory Statewide School Bus Idling Regulation (*Idling time limits*)
  - b. Idling Reduction Regulations for Transit and Other Public Fleets (*Voluntary idling time limits, eventually followed by mandatory*)
  - c. Loan Program to Reduce Idling (*Funding for cab heaters, auxiliary power units, etc.*)
  
- 5. Reduce Idling from Private Fleets**
  - a. Voluntary Anti-Idling Program with Educational Outreach (*Voluntary idling time limits, eventually followed by mandatory requirements*)
  - b. Contract Requirements for Public Projects Using Private Fleets (*Limit idling time for construction equipment*)
  - c. Revolving Loan or Lease-to-Own Program for Anti-Idling Equipment (*Funding for cab heaters, auxiliary power units, etc.*)
  - d. Reduce Idling from Switchyard and Line-Haul Locomotives (*State or federal law to limit railroad idling time*)
  
- 6. Truck Stop Electrification (TSE)**
  - a. Identify Key Sites for TSE (*Providing electric hook-up power at truck stops, rest areas, Turnpike locations, etc.*)
  - b. Financing Program for TSE (*Public and private funding*)
  - c. Require New Truck Stops to Include TSE Infrastructure (*ODOT to ensure hook-ups at all new rest areas, etc.*)
  
- 7. Alternative Fuels and Electric Vehicles**
  - a. Increased Use of Ethanol (E85) (*Public and private fleets*)
  - b. Increased Use of Biodiesel (*Public and private fleets*)
  - c. Increased Use of Natural Gas (*Public and private fleets*)
  - d. Increased Use of Propane (*Public and private fleets*)
  - e. Increased Use of Electric Vehicles (*Public and private fleets*)
  
- 8. Roadside Diesel Opacity Testing**
  - a. Statewide Roadside Diesel Opacity Testing – Public and Private Fleets (*Exhaust “smoke” testing for trucks, buses, etc., with (1) warning and (2) fine, to improve emissions from local fleets and those passing through*)
  
- 9. Transportation Projects**
  - a. Conformity Analysis of Innerbelt Project for Nonroad Emissions (*Comprehensive study of diesel construction equipment emissions*)
  
- 10. Fuel Testing - Emission Reduction Strategies**
  - a. Statewide Testing of Gasoline and Diesel Fuel Specifications (*Check for excess sulfur, water, etc., at distribution points*)

## **11. Statewide Auto Safety Standards**

- a. Adopt a Safety/Anti-Tampering Inspection Program (*Prevent “dumping” of poorly functioning cars and trucks in Ohio*)

## **12. Ports**

- a. Truck Traffic Anti-Idling Policy at the Port of Cleveland/Cuyahoga County (*Limit idling time while waiting for (un)loading*)

## **13. Airports**

- a. Ground Support Equipment (GSE) Replacement with Electric, CNG, or Other Clean Technology (*Low-emission baggage carts, fuel trucks, etc., with potential funding available through the federal Voluntary Airport Low Emissions (VALE) Program*)

## **14. Public Transit**

- a. Increased Funding by the State of Ohio for Public Transit in Northeast Ohio. (*This recommendation was added by the Transportation Advisory Committee.*)

## **Stationary Source Emission Reduction Strategies**

### **1. Steel Mills**

- a. NOx Reasonably Available Control Technology (RACT) for Industrial Boilers (*Reduced NOx limits according to size*)

### **2. NOx Credits**

- a. NOx Credit Trading Bank with Partial Credit Retirement (*Ability to buy and sell NOx reductions; 5% annual removal of credits from the Ohio EPA bank*)

### **3. Diesel Generators**

- a. Retrofit or Replace Large (Stationary) Diesel Gen-Sets
- b. Retrofit or Replace Medium (Portable) Diesel Gen-Sets
- c. Public Education Regarding Purchases of Small (Home) Diesel Generators

### **4. Residential Combustion**

- a. Adoption of the NESCAUM Model Rule for Outdoor Hydronic Heaters (*Emission limits on new wood-fired boilers; gradual regulation of existing boilers*)
- b. Mandatory "No Burn" Days When Ozone or PM<sub>2.5</sub> is Elevated (*Affecting fireplaces, outdoor burning, etc.*)
- c. Voluntary Wood Stove Change-Out Program (*Subsidized USEPA-approved clean-burning inserts*)

**5. Hot Mix Asphalt Plants**

- a. Reasonably Available Control Technology (RACT) for Hot Mix Asphalt Plants (*Combination of flexible controls*)

**6. Restaurants**

- a. Food-Service Catalytic Oxidizer for Chain-Driven Charbroilers (*Air pollution controls on grilling and frying equipment*)

**7. Road Salt**

- a. Use of Liquefied Brine to Reduce Total Applied Road Salt
- b. Strict Adherence to Local Salt Minimization Policies

**8. Enforcement Practices**

- a. Adjust to an Appropriate Level of Staffing to Enhance Compliance with Existing Law (*Additional staff for OEPA and local air agencies*)

**9. Long-Term Solutions: Energy Strategies**

- a. Renewable Portfolio Standards and Wind Power
- b. Energy Audits for Businesses and Municipalities
- c. Encouraging Manufacturing of Energy Efficient Components

More extensive material on each strategy is available in the Task Force reports, found at: [www.noaca.org/pmsiplan.html](http://www.noaca.org/pmsiplan.html).