

## **DRAFT Interim Report of the Cincinnati PM2.5 Working Group**

### **Background**

The Greater Cincinnati region was classified as being in nonattainment of the federal PM2.5 standard in April 2005. OKI has engaged local stakeholders through an outreach effort to develop potential strategies that will contribute to the region's attainment of the standard. The local stakeholders have formed the PM2.5 Working Group. As the state environmental agencies of Ohio, Kentucky and Indiana are preparing their State Implementation Plans (SIPs) to address PM2.5, the Cincinnati PM2.5 Working Group will provide recommendations on potential PM2.5 control strategies. The PM2.5 SIPs are due to the USEPA in April 2008. In 2004, a similar stakeholder process was successful in developing strategies to assist in attaining the ozone standard. The central theme of the PM2.5 Working Group is that local choices about the sources and pollutants to control will need to be informed by highly local considerations. A particular PM2.5 source category may account for a small share of national PM2.5 emissions, but it may dominate the local inventory.

### **Working Group meeting highlights**

The PM2.5 Working Group has met on three occasions in 2006: October 11<sup>th</sup>, November 15<sup>th</sup>, and December 7<sup>th</sup>. Meeting minutes and presentations are provided on OKI's [Clean Air Consortium website](#). On October 11<sup>th</sup>, the PM2.5 Working Group met jointly with the Regional Ozone Coalition. Presenters provided a background on PM2.5, current monitoring data in the region, preliminary modeling of attainment year PM2.5 levels, and the schedule for completing the SIP. Discussions at the November 15<sup>th</sup> meeting provided more detail on the unique composition of PM2.5 in Cincinnati and modeling inputs used to determine the residual nonattainment areas. The group also discussed a draft list of source targets and control strategies. The focus of the December 7<sup>th</sup> meeting was a closer examination of PM2.5 sources, especially organic carbon. Maps showing the pollution sources surrounding the Hamilton County PM2.5 monitors were provided. A field view provided participants with a greater understanding of the PM2.5 source activity. The meeting on January 18<sup>th</sup> included a summary report on what has been learned during this process and a look at draft recommendations. The PM2.5 Working Group decided to continue the discussion of organic carbon through conference calls. OKI presented possible mobile source strategies.

### **Interim Findings of PM2.5 Working Group**

The Cincinnati region's 2004 designation as a PM2.5 nonattainment area established 2010 as the target year for attainment. The most recent air quality monitor data from 2003-2005 shows that the region continues to exceed allowable federal PM2.5 standards. Computer modeling of the attainment year also shows that some Cincinnati monitors will continue to exceed the PM2.5 standard. This computer modeling includes the benefits of new federal rules targeting direct PM2.5 and PM2.5 precursor emissions. These federal rules include the NOx SIP Call, stricter limits on the sulfur content of gasoline and diesel, and cleaner diesel engines.

Organic carbon and sulfates account for about  $\frac{3}{4}$  of the local PM<sub>2.5</sub> inventory. There are many sources of organic carbon including power plants, local industry, gasoline and diesel vehicles. A better understanding of the local sources of organic carbon is necessary in order to determine effective control strategies. The sources of sulfate include power plants and diesel vehicles. Recent power plant improvements due to the NO<sub>x</sub> SIP Call may be decreasing the overall sulfate levels.

The highest regional readings of PM<sub>2.5</sub> come from monitors nearest to industrial areas and the I-75 corridor. Significant diesel truck traffic along I-75 and local point sources are likely contributors to the high PM<sub>2.5</sub> levels.

OKI's Draft Recommendations based on the Interim Findings of PM2.5 Working Group

1. It is recommended that an Organic Carbon Sub-Group continue to meet periodically in order to reach a better understanding of the local sources of organic carbon. This technical Sub-Group will advise on whether additional emission limits on industrial and commercial boilers are recommended. The sub-group should consist of representatives of Ohio EPA, the Kentucky Division for Air Quality, the Hamilton County Department of Environmental Services and other interested parties. OKI can assist in facilitating conference calls, meeting space, or field trips.
2. It is recommended that OKI's transportation project selection process provide increased priority for projects that are expected to reduce diesel emissions. Examples of these projects include; increased use of biodiesel, truck anti-idling facilities, and installation of diesel retrofits.
3. It is recommended that OKI engage local freight operators in identifying transportation projects with significant potential for reducing diesel emissions. These projects may include reducing bottlenecks at intermodal facilities, and idling limitations for trucks and locomotives.
4. It is recommended that the Ohio Department of Transportation reduce emissions from construction equipment for projects within the I-75 corridor in Hamilton County. The emission reductions would be accomplished by installing retrofit devices and/or by using cleaner burning fuels in contractor or sub-contractor diesel powered equipment. (Over \$800 million dollars of highway construction is expected within the I-75 corridor within the next 11 years)