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PM 2.5: FREQUENTLY ASKED QUESTIONS

What is PM 2.5?

Microscopic particles that are easily inhaled and can lodge deep in the lungs. PM 2.5 is another way of saying fine particulate matter of a very small size, to be precise, particles less than 2.5 micrometers in diameter.

Where does PM 2.5 come from?

PM 2.5 comes mostly from fuel combustion in diesel engines, power plants, industrial facilities, and wood stoves. The burning of natural gas and diesel fuel produces significant amounts of PM 2.5. PM 2.5 can also be formed in the atmosphere (secondary formation) from gases such as sulfur dioxide, nitrogen oxides, and volatile organic compounds.

Is PM 2.5 dangerous to health?

Yes. Scientific studies have shown that PM 2.5 is related to significant health problems, including:

- Aggravated asthma;
- Chronic bronchitis;
- Acute respiratory symptoms and reduced lung function, including shortness of breath, difficult or painful breathing, and aggravated coughing;
- Cardiovascular disease;
- Premature death

PM 2.5 emissions result in increased hospital admissions, emergency room visits, and work and school absences.

Who is most at risk?

The elderly, children, asthmatics, and individuals with preexisting heart or lung disease.

Is PM 2.5 regulated?

Yes. But, New York State agencies have ignored potential PM 2.5 impacts when reviewing and permitting new facilities. In 1997, the U.S. Environmental Protection Agency (EPA) set a new standard to regulate PM 2.5 as part of the National Ambient Air Quality Standards (NAAQS) under the Clean Air Act. Under the NAAQS, PM 2.5 levels should not be over 65 micrograms per cubic meter ($\mu g/m^3$) measured over a 24-hour period and 15 $\mu g/m^3$ averaged over a year. So, if an area is over 15 $\mu g/m^3$, the PM 2.5 level is too high and poses a serious health risk.

Are there high levels of PM 2.5 in New York City?

Yes, and many of these neighborhoods have the highest asthma rates in the world. The following locations have State air monitors that in 2000 showed PM 2.5 levels above the NAAQS 15 µg/m3 standard:

- Brooklyn— Greenpoint (16.2 µg/m3), Sunset Park (15.8 µg/m3)
- Bronx— Morrisania (16.6 µg/m3), Mott Haven/Port Morris (15.2 µg/m3)
- Manhattan— Canal Street (17.5 µg/m3), East Harlem (15.5 µg/m3), Midtown (18.4 µg/m3)

Monitoring data for 2001 indicate that PM 2.5 levels continue to rise.

What should be done?

The potential impacts of PM 2.5 should be studied for any new polluting facility. Such a study must take into account the existing levels of PM 2.5, the health conditions of the nearby residents, the amount of emissions from the facility, the cumulative effect of multiple nearby polluting sources, and secondary formation of PM 2.5. If a new facility might harm people, the impacts must be minimized, and the emissions completely offset or the facility should not be built. Also, the City and State should immediately begin developing a control strategy for PM 2.5.