

Current Status of the National Ambient Air Quality Standards in the US

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Research Triangle Institute (RTI) has been active in the development of methods to characterize particulate matter (PM) in the atmosphere and indoor environments, as well as investigating the relationship between ambient concentrations and personal exposure. Much of this research is motivated by the research priorities identified by the US National Research Council (NRC) in the publication *Research Priorities for Airborne Particulate Matter. I. Immediate Priorities and a Long-Range Research Portfolio* (<http://www.nap.edu>). In this report, ten research topics are identified as high priority research recommendations. Among the research priorities are (1) assess the hazardous properties of PM, (2) perform more detailed atmospheric measurements and analyses and (3) investigate the relationship between ambient PM and personal exposure.

In an effort to address the NRC research priorities, and to fulfill congressional mandate, EPA is preparing a report which reviews current scientific knowledge on atmospheric PM. The US Environmental Protection Agency (EPA) Office of Research and Development has recently (April 2001) released the second draft of the Criteria Document *Air Quality for Particulate Matter (PM)*. The draft document provides a review of recent scientific information that has become available mainly from 1996 through 2000. The draft document is currently available for public comment in the US, and is being reviewed by the Clean Air Scientific Advisory Committee (CASAC). A third draft of the document will be released and an additional round of reviews will be performed prior to completing the final version of the document, which is expected to be released in 2002. This document is currently available for download from the EPA website (<http://www.epa.gov/ncea/partmatt.htm>).

The purpose of this presentation is to provide an overview on the US national ambient air quality standards (NAAQS), with an emphasis on recent modifications and additions to the NAAQS. Key issues related to atmospheric PM that will be discussed include atmospheric chemistry and physics, measurement methods—both conventional filter-based sampling and research-grade continuous monitoring—exposure-dose-response risk assessment and current research programs in ambient aerosol sampling. Data made public by the EPA will be presented, including ambient data from national PM measurement networks and data from *Air Quality for Particulate Matter (PM)*. Data from fieldwork performed by RTI also will be presented, providing a more detailed perspective of current research efforts in the areas of atmospheric PM sampling. Finally, novel techniques that are currently under development for atmospheric PM monitoring will be presented, discussing capabilities, benefits and disadvantages.