



Project Summary

Development of Size-Specific Data from Particulate Control Technology Research Reports

T. Allan Dean, Michiel Doorn, William R. Barnard, and Robert Coleman

This report presents size-specific, uncontrolled emission factors and control efficiencies which were developed from numerous studies of particulate control device performance conducted under the direction of the Air and Energy Engineering Research Laboratory (AEERL) of the U.S. Environmental Protection Agency (EPA) between 1974 and 1981. The particle size ranges of concern are 0-2.5, 2.5-6, 6-10, and 0-10 μm . These data and the sampling and analysis procedures documented in the reports were subjected to a quality assurance review and then compared with source- and control-device-specific information in several data sources maintained by EPA's Office of Air Quality Planning and Standards (OAQPS): *Compilation of Air Pollutant Emission Factors (AP-42)*, *AIRS Facility Subsystem Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants (EPA-450/4-90-003)*, and the PM_{10} computer file, which is available on the Clearinghouse for Inventories/ Emission Factors (CHIEF) Bulletin Board. Where no relevant information existed in these data sources, it was determined that the data developed from these studies should be incorporated into them. Each control device study is reviewed individually. For each study, the source, control device, and sampling configuration are briefly described, the quality of the sampling and analysis methods is rated informally, the data are compared with any comparable AP-42 data, and conclusions are made regarding the need for the data in the OAQPS data sources.

Reviews of those documents which yielded data not suitable for inclusion in the OAQPS data sources are also included.

This Project Summary was developed by EPA's Air and Energy Engineering Research Laboratory, Research Triangle Park, NC, to announce key findings of the research project that is fully documented in a separate report of the same title (see Project Report ordering information at back).

Introduction

EPA's Office of Air Quality Planning and Standards (OAQPS) has created and is maintaining databases which state and local air pollution control agencies and EPA regional offices can use to inventory and regulate particulate emission sources. These databases include *AIRS Facility Subsystem Source Classification Codes and Emission Factor Listing for Criteria Air Pollutants (EPA-450/4-90-003)* and *Compilation of Air Pollutant Emission Factors (AP-42)*.

On July 1, 1987, EPA published a final rule for an ambient air quality standard for PM_{10} . Consequently, state and local government agencies and EPA regional offices need emission factor and control efficiency information to perform PM_{10} emission inventories. To meet this need, the OAQPS developed a computer program which calculates a control efficiency for PM_{10} for specific control equipment for various emission source categories. A subfile in the computer program also generates a PM_{10} control efficiency for a given pair of air pollution control devices (APCDs) operated in series at a process



T.A. Dean, M. Doorn, W.R. Barnard, and R. Coleman are with E.H. Pechan and Assoc., Inc., Durham, NC 27707.

Charles C. Masser is the EPA Project Officer (see below).

The complete report, entitled "Development of Size-Specific Data from Particulate Control Technology Research Reports," (Order No. PB93-131456/AS; Cost: \$17.50; subject to change) will be available only from:

National Technical Information Service

5285 Port Royal Road

Springfield, VA 22161

Telephone: 703-487-4650

The EPA Project Officer can be contacted at:

Air and Energy Engineering Research Laboratory

U.S. Environmental Protection Agency

Research Triangle Park, NC 27711

United States
Environmental Protection Agency
Center for Environmental Research Information
Cincinnati, OH 45268

Official Business
Penalty for Private Use
\$300

EPA/600/SR-92/214

BULK RATE
POSTAGE & FEES PAID
EPA
PERMIT No. G-35