

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Emissions, Monitoring, and Analysis Division
79 T.W. Alexander Drive, Research Triangle Park, North Carolina 27711

October 25, 2000

MEMORANDUM

SUBJECT: Documentation of the Diesel Exhaust PM Emissions Inventory Used in the National-Scale Toxics Assessment

FROM: Gregory Stella
Office of Air Quality Planning and Standards

TO: Air Docket A-99-06

The diesel exhaust PM emissions inventories for the United States and the District of Columbia were derived from more comprehensive inventories developed for ozone, PM₁₀, and PM_{2.5} air quality modeling as part of the rulemaking on Heavy-Duty Engine and Vehicle Standards and Highway Diesel Fuel Sulfur Control Requirements (June 2, 2000; 65 FR 35430). All these inventories are based on Federal Highway estimates of vehicle operation, estimates of the distribution of fuel type and weight classes of vehicles from the EPA Office of Transportation Air Quality (OTAQ), and adjusted MOBILE5b emission factors to simulate expected results from MOBILE6. With the exception of aircraft, commercial marine, and locomotive emissions, county-level nonroad emissions from all these inventories were from OTAQ's draft June 2000 NONROAD model.

Details of the final comprehensive emission inventories used for ozone, PM₁₀, and PM_{2.5} air quality modeling and their development can be found in the document developed for EPA by E.H. Pechan & Associates, Inc., "*Procedures for Developing Base Year and Future Year Mass and Modeling Inventories for the Heavy-Duty Diesel (HDD) Rulemaking.*"

The final modeling files generated for the National-Scale Toxics Assessment (NATA) modeling effort differed from these final comprehensive inventories as they included only PM emissions from diesel fueled mobile source vehicles. These PM emissions were further defined as "fine" or "coarse" where the "fine" component of the emissions were those estimated to have a diameter less than 2.5 micrograms (PM_{2.5}) and the "coarse" component was calculated as the difference of PM₁₀ and PM_{2.5} (PM₁₀-PM_{2.5}). Additionally, for on-highway vehicles, the brake and tire wear component of the resulting PM emissions was removed.