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**Measurement Policy Group
January 2007 Projects Status Report**

Environmental Protection Agency
Office of Air Quality Planning and Standards
Sector Policies and Programs Division
Measurement Policy Group
(<http://www.epa.gov/ttn/>)

Below is a status report of projects and other current activities involving air emissions monitoring and other emissions quantification tools, databases, and protocols.

Improving Emissions Monitoring through Rulemaking

- **Draft Performance Specifications and QA/QC for Continuous Parameter Monitoring Systems (PS-17)** - Our newer emissions standards (e.g., MACT and NSPS) frequently include requirements for monitoring of process or control device operational parameters and for having the operator to stay within site-specific or rule-specific operating ranges. We recognized the need for performance specifications for installing, operating and maintaining these parametric monitoring systems (e.g. temperature, pressure, pH, liquid flow, conductivity) and have begun work on drafting performance specifications and quality assurance requirements. In 2007, we plan to have documents ready for internal review and approval prior to proposal and public review. Contact: Barrett Parker parker.barrett@epa.gov, 919-541-5635
- **Inadequate Monitoring (Advanced Notice of Proposed Rulemaking)** - On February 16, 2005 (Volume 70, Number 31)], we published an ANPR asking for public comment to help us identify monitoring in applicable requirements under the Clean Air Act (Act) that is potentially inadequate with respect to the statutory monitoring requirements for operating permits issued under title V of the Act. We also requested comment on ways to improve such monitoring. We have reviewed those comments and prepared responses with a view towards identifying opportunities for and criteria to use in prioritizing potential future regulatory activities. Of particular interest would be regulatory actions with the potential for which monitoring would improve assurance of significant emissions reductions. Contact: Tom Driscoll, driscoll.tom@epa.gov, 919-541-5135
- **Interpretive Rule for Parts 70/71 Monitoring** - On June 2, 2006, we proposed and on December 15, 2006, we finalized an Interpretive Rulemaking to Clarify the Scope of Certain Monitoring Requirements for State and Federal Operating Permits Programs. This action addressed an interpretation of certain existing regulatory language relative to the need to address the sufficiency of existing monitoring requirements included in State and federal operating permits programs developed under title V of the Clean Air Act (Act). Specifically, the final interpretation is that §§ 70.6(c)(1) and 71.6(c)(1) of 40 CFR

parts 70 and 71 (previously referred to as the Umbrella Monitoring Rule) do not authorize an independent assessment of the adequacy of or adding monitoring requirements to operating permits. This interpretation has no effect on implementing the other monitoring provisions required under existing federal air pollution control rules and State implementation plan (SIP) rules (i.e., monitoring required under applicable requirements), including monitoring required under part 64 (the compliance assurance monitoring, or CAM, rule) where it applies, and such monitoring as may be required to fill gaps under the separate periodic monitoring requirements of the operating permits rules in §§ 70.6(a)(3) and 71.6(a)(3). Contact: Peter Westlin, westlin.peter@epa.gov, 919-541-1058

- **Revisions to Part 64, Compliance Assurance Monitoring** - We have drafted rulemaking entitled “Proposal of Revisions to Part 64 - Compliance Assurance Monitoring Rule,” that would govern how states implement monitoring in the title V operating permit program. The revised rules would expand the applicability of part 64 applying the same monitoring design principles to nearly every type of pollutant-specific emissions unit at title V sources. The rule would define more specifically when monitoring may be needed on a pollutant-specific emissions unit basis and set forth a process by which sources and permitting authorities would assess existing monitoring and create periodic monitoring, as needed, to provide a reasonable assurance of compliance with applicable requirements. This proposal is part of the Agency’s four-step approach to addressing monitoring in title V permits as explained in the January 22, 2004 Federal Register notice (69 FR 3202). In early 2007, we expect to have the rule revisions documents ready for internal review and approval prior to proposal and public review. Contact: Peter Westlin, westlin.peter@epa.gov, 919-541-1058
- **Fine Particulate Matter Implementation Rule** - The Agency proposed a rule to implement the fine particles (PM_{2.5}) national ambient air quality standards on November 1, 2005. During 2006, MPG contributed significantly to the development of the final rule language in responding to public comments and helping to define national policies for improved monitoring and testing of PM_{2.5} emissions including condensable PM. The current plans are for MPG to lead development of guidance and tools for improved monitoring for use in the development of State rules implementing the standards once the final rule is published. Contact: Tom Driscoll, driscoll.tom@epa.gov, 919-541-5135

Emissions Factors Improvement

- **Emissions Factors Development Procedures** – In June of 2006, we made available for review and comment Detailed Procedures for Preparing Emissions Factors on the CHIEF website of the TTN (http://www.epa.gov/ttn/chief/efpac/procedures/procedure_draft.pdf). The purpose of this document is to describe the specific tasks involved in the development of air pollution emissions factors and their subsequent incorporation into EPA’s web-based Factor Information and REtrieval (*WebFIRE*) system (see below). The major changes to the historic emissions factor development process are to

- provide more extensive detail on the emissions factor development procedural and technical steps,
- clarify roles for emissions test data and report review and approval, and
- incorporate data assessment tools particularly the uncertainty assessment available through the electronic reporting tool (ERT, see below).

Publishing the detailed EF development procedures is a significant step towards a self-sustaining EF development process. Contact: Ron Myers, myers.ron@epa.gov, 919-541-5407

- **Emissions Factors Data Uncertainty** - In 2006, we completed a statistical study of the uncertainty associated with published emissions factors that are based on emissions testing data, such as those contained in AP-42. We presented the study's approach and the results to internal EPA reviewers and a panel of expert peer reviewers and have addressed comments and suggestions received as a result. In February 2007, we will submit a report describing the technical approach and the results to Congress and the Office of Management and Budget. The report will be also available on the MPG website (www.epa.gov/ttn/chief/). Contact: Barrett Parker, parker.barrett@epa.gov, 919-541-5635
- **WebFIRE** – In December 2005, we made available on the TTN an Internet application of the Factors Information REtrieval system (WebFIRE) (<http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main>). This interactive tool provides fast and complete access to the Agency's air emissions factors information. In time WebFIRE will replace the software application, FIRE version 6.25, and the Microsoft Access version of the database. An Internet version of FIRE will allow more frequent updates and easier access. We have also provided a list of frequently asked questions that describe in more detail the functions of the WebFIRE program and how the emissions factors are derived. Plans in 2007 include incorporating information on emissions factor data uncertainty including the results from the electronic reporting tool (see below). Contact: Michael Ciolek, ciolek.micheal@epa.gov, 919-541-4921
- **AP-42 Emissions Factors Updates** – We updated and added several sections to AP-42 in 2006. The new and updated materials are largely a result of collaborative efforts between MPG and industry and agency stakeholders. New materials published this past year included
 - Iron and steel minimills - finalized section describing the industry and EFs for PM (filterable and condensable), NO_x, CO, SO₂, lead, fluoride, and VOC,
 - Organic liquid storage tanks - updated the equations and data used in calculating emissions from organic liquid storage vessels and for TANKS, a Windows-based computer software program developed in collaboration with API that estimates volatile organic compound (VOC) and hazardous air pollutant (HAP) emissions from fixed- and floating-roof storage tanks
<http://www.epa.gov/ttn/chief/software/tanks/index.html>.
 - Paved and unpaved roads - finalized sections describing the emissions source and the emissions factors for fugitive dust,

- Ordnance detonation - 16 final and new draft sections describing the weapons and the emissions produced by detonation including criteria pollutants, CO₂, and hazardous and toxic pollutants,
- WATER9, version 3 - an updated computer model for determining emissions from wastewater treatment processes, and
- Concrete batching operations - finalized section describing the industry and updated emissions factors for PM, primarily fugitive emissions.

We expect in 2007 to add new data for other industry categories including coke ovens, landfills, natural gas production, municipal waste combustors, and rubber manufacturing.

Contacts: Michael Ciolek, ciolek.michael@epa.gov, 919-541-4921, and John Bosch, bosch.john@epa.gov, 919-541-5583

Tools for Improved Monitoring and Testing

- **Electronic Reporting Tool (ERT)** - In early 2006, we made available a Microsoft Access desktop application, called the ERT, that is an electronic alternative for paper reports documenting EPA's emissions measurement Methods 1 through 5 and Method 202 for stationary sources. The ERT replaces the time-intensive manual preparation and transcription of stationary source emissions test plans and reports currently performed by contractors for emissions sources and the time-intensive manual quality assurance evaluations and documentation performed by State agencies. This tool provides a format that 1) highlights the need to document the key information and procedures required by the existing EPA Federal Test Methods; 2) facilitates coordination among the source, the test contractor, and the regulatory agency in planning and preparing for the emissions test; 3) provides for consistent criteria to characterize quantitatively the quality of the data collected during the emissions test; 4) standardizes the form and content of test reports; and 5) provides for future capabilities to exchange information in the reports electronically with facility, State or Federal data systems. In addition to improving the content and quality of source emissions test reports, the ERT should reduce the workload associated with manual transcription of information and data contained in the report, the resources required to store and access the reports; and redundant efforts in using the data for multiple purposes. The current version of the ERT is available for review and comment at http://www.epa.gov/ttn/chief/ert/ert_tool.html. In 2007, we plan to expand the capabilities of the tool to address EPA emissions testing methods for SO₂, NO_x, THC (Method 25A), metals, and halides. Contact: Ron Myers, myers.ron@epa.gov, 919-541-5407
- **Monitoring Knowledge Base** - EPA's Monitoring Knowledge Base (MKB) has been available on the CHIEF website for a few years (<http://cfpub.epa.gov/mkb/>). This interactive Internet tool provides a user-friendly compilation of information about air pollution control technologies and the monitoring techniques applicable for establishing the ongoing compliance operations of a range of air pollution control measures. The MKB presents the monitoring information is by industry type and by control technique. The initial version of the MKB focuses on the surface coating industries, including

printing and publishing, and addresses the technologies and monitoring of activated carbon adsorbers, capture systems, catalytic oxidizers, compliant inks and coatings, condensers, cyclones, electrified filter beds, electrostatic precipitators, fabric filters, thermal oxidizers, and wet scrubbers for particulate and gaseous control. We are exploring enhancements to the tool to integrate the information with the RACT/BACT/LAER Clearinghouse and some of the permitting information sources (e.g., NSR, periodic monitoring). Contact: Barrett Parker, parker.barrett@epa.gov, 919-541-5635

- **Continuous Monitoring of Primary PM_{2.5}** - We have underway a project to review the technologies available for monitoring continuously primary particulate matter from stationary sources including both filterable and condensable materials. Included in the review are continuous dilution sample collection systems used in combination with continuous mass measurements. We expect a report on the study with recommendations for future work in early 2007. Contact: Ron Myers, myers.ron@epa.gov, 919-541-5407
- **Improving Method 202 for Measuring Condensable PM_{2.5}** - This project is designed to develop technical information for future improvement of the method to reduce artifact formation. We have conducted in-house laboratory evaluations of the effects of a range of SO₂ and moisture concentrations on artifact formation. We have also evaluated the applicability of modifications to the sampling train to reduce artifact formation. Next steps include interested stakeholders undertaking field studies of various source types using the method with improvements. The purposes of these studies will be to 1) verify the characteristics of the improved Method 202 and any modifications and 2) to collect new data more representative of condensable PM emissions than those currently published in emissions factors compilations. Contact: Ron Myers, myers.ron@epa.gov, 919-541-5407
- **Fugitive VOC and Dust Emissions Measurement** – We are supporting efforts to characterize fugitive VOC and fugitive dust emissions more completely and accurately and examining policy implications of using such technology. We have conducted a stakeholder workshop on the availability and capabilities of various testing and monitoring technologies including open path tools. We will publish the results of the workshop and prioritize future work products identified in the workshop. Contact: John Bosch, bosch.john@epa.gov, 919-541-5583
- **RACT/BACT/LAER Clearinghouse (RBLC)** – The RBLC (<http://cfpub.epa.gov/rblc/htm/bl02.cfm>) contains case-specific information on the "Best Available" air pollution technologies that have been required to reduce the emissions of air pollutants from stationary sources (e.g., power plants, steel mills, chemical plants, etc.). EPA has provided this vehicle for State and local permitting agencies to use to distribute this information. The Clearinghouse also contains a data base of State and local regulations and summarizes EPA emission limits required in New Source Performance Standards (NSPS), National Emission Standards for Hazardous Air Pollutants (NESHAP), and Maximum Achievable Control Technology (MACT)

standards. The RBLC also includes links to software tools (e.g., emissions modeling tools, databases) that can be used to estimate emissions, evaluate alternative control and prevention technologies, or identify less polluting materials. In 2006, we launched a Spanish language version of the RBLC providing Mexico and other Central and South American agencies, and many European agencies direct access to the databases including the ability to input data. In 2007, we plan to extend access to the data sources to Canadian national and provincial agencies. Contact: Iliam Rosario, rosario.iliam@epa.gov, 919-541-5308