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OAQPS Measurement and Monitoring Projects

Environmental Protection Agency
Office of Air Quality Planning and Standards
Air Quality Assessment Division, Measurement Technology Group
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 methods and monitoring and other emissions quantification tools, databases, and protocols.

New and Revised 40 CFR Part 60, Appendix A, Test Methods

- **Test Methods Revisions** - Methods 3A, 6C, 7E, 10, and 20 are instrumental test methods that were revised to harmonize equipment, calibration gas quality specifications, and performance criteria. Other improvements address low-concentration measurements and alternative performance evaluation techniques. The revisions were proposed in 2003 (68 FR 58838) and promulgated on May 15, 2006 (71 FR 28082). Due to comments received, the direct final rulemaking package(72 FR 51365) published in September 7, 2007 containing technical amendments to the instrumental methods to address special circumstances as well as corrections was withdrawn. The final rulemaking package should be published in May 2008 Contact: Foston Curtis, MTG, curtis.foston@epa.gov, 919-541-1063

- **Method 2H Revision** – Method 2H describes the procedures to determine velocity decay near the wall in circular stacks. The revisions to Method 2H will incorporate the improvements from CTM-041. CTM-041 was posted to the EMC website in 2004 and has been used frequently through the petition process of the Clean Air Markets Division for assessment of wall effects for rectangular stacks. The improvements from CTM-041 will allow Method 2H to address wall effects in rectangular stacks, allow multiple runs at a single load, decouple the wall effects testing from the RATA, and provide a mathematic formula for determination of a stack specific default wall effect adjustment factor. The rule package is currently slated for the end on 2008. Contacts: Jason DeWees, MTG, dewees.jason@epa.gov, 919-541-9724

- **Method 18 Revisions** - Method 18 utilizes gas chromatography coupled with various sampling procedures to measure gaseous organic emissions from stationary sources. In 2004, we met with interested stakeholders to discuss their concerns with real-life application of Method 18 and recommendations for improvements in the method and shared our perspective on the recommendations at the 2004 Stationary Source Sampling and Analysis of Air Pollutants Conference. We have finally obtained contract resources to work on a regulatory proposal for revisions to Method 18. Planned revisions include

clarification of calibration specifications and addition of sampling options such as collection of water soluble organics in water. Proposal is slated for 2008. Contacts: Gary McAlister, MTG, mcalister.gary@epa.gov, 919-541-1062 and Rima Howell, MTG, howell.rima@epa.gov, 919-541-0443

- **Method 23 Revisions** – EPA's Office of Solid Waste (OSW) is in the process of revising SW-846 Method 8290 for analyzing samples for dioxins and furans. As a part of this process we had planned to revise Method 23 to take advantage of the more advanced analytical approach of 8290. The revised Method 23 would only describe the sampling procedures for collecting the dioxin/furan sample and then rely on the revised Method 8290 for the appropriate analytical procedures. In addition, OSW had planned to remove Method 0023A from their SW-846 manual and specify the revised Method 23 as their sampling procedure. These plans have been delayed due to differences in how OSW and OAQPS specify analytical methods in their rules; we now plan to propose these revisions in 2009. Contact: Gary McAlister, MTG, mcalister.gary@epa.gov, 919-541-1062

- **Method 24 Revisions** - Method 24 describes procedures for determining the volatile matter content, water content, density, volume solids, and weight solids of surface coatings, typically referencing ASTM procedures for conducting these analyses. In an EPA-sponsored study, we completed a round-robin sampling and analysis evaluation of a new procedure for determining the volatile organic content of water-based coatings and drafted a method revision based on the results. The Adhesive Council then developed and drafted an improved headspace method for water-based coatings and has been working to get it accepted as an ASTM standard. The initial draft did not pass the ASTM balloting process in 2005 and ASTM is now working with the Adhesives Council and California Polytechnical University on revisions. Following successful balloting of the revised version, we plan to propose it as an addition to Method 24. Contact: Candace Sorrell, MTG, Sorrell.candace@epa.gov, 919-541-1064

- **Method 30A - Determination of Total Vapor Phase Mercury Emissions from Stationary Sources (Instrumental Analyzer Procedure)** - The Clean Air Mercury Rule (70 FR 28606, 5/15/05) establishes mercury emissions standards for coal-fired utility boilers and relies heavily on mercury monitoring which in turn requires yearly certification of the mercury monitoring systems using a reference method. The current reference method (known as the Ontario Hydro method), which utilizes a wet chemical approach, typically requires several weeks until results are available. To provide a more practical and timely alternative, we have just issued a Direct Final rulemaking for a performance-based test method using an instrumental analyzer to measure mercury much like Methods 6C and 7E. The rule package was published in the Federal Register (72 FR 51494 9/7/07) and became effective November 6, 2007. Contacts: Robin Segall, MTG, segall.robin@epa.gov, 919-541-0893, Bill Grimley, MTG, grimley.william@epa.gov, 919-541-1065, and Jeff Ryan, ORD, NRML, ryan.jeff@epa.gov, 919-541-1437

- **Method 30B - Determination of Mercury Emissions from Stationary Sources from Coal-Fired Combustion Sources Using Carbon Sorbent Traps** - Method 30B is another option for relative accuracy testing of mercury monitoring systems included in the rulemaking package with Method 30A as described above. Method 30B relies integrated sampling using carbon sorbent traps and analysis using an extractive or thermal sample prep technique coupled with instrumental analysis. Like Method 30A, Method 30B is performance-based relying on achievement of specified performance criteria to assure the quality of measured data. The rule package was published in the Federal Register (72 FR 51494 9/7/07) and became effective November 6, 2007. Contacts: Bill Grimley, MTG, grimley.william@epa.gov, 919-541-1065, Robin Segall, MTG, segall.robin@epa.gov, 919-541-0893, and Jeff Ryan, ORD, NRML, ryan.jeff@epa.gov, 919-541-1437

New and Revised 40 CFR Part 60, Appendix B, Performance Specifications for Continuous Monitoring Systems

- **Performance Specification 11** – The Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources (PS-11) were promulgated on Monday, January 12, 2004 (69 FR 1786). We have been working on the development of a guidance document for PM CEMS which will be finalized and posted on the EMC website following promulgation of revisions to PS-11 in the PS-16 rulemaking package later this year. Contact: Dan Bivins, MTG, bivins.dan@epa.gov, 919-541-5244

- **Performance Specification 12A** - Specifications and Test Procedures for Total Vapor Phase Mercury Continuous Emission Monitoring Systems in Stationary Sources (PS-12A) were promulgated in conjunction with the Clean Air Mercury Rule on May 18, 2005 (70 FR 28606). In 2005, the EMC completed a long-term field test program to evaluate the performance and reliability of six commercially available mercury CEMS at a coal-fired utility boiler controlled by selective catalytic reduction technology, an electrostatic precipitator, and a wet scrubber. The full report on this demonstration is posted on the EMC website on the Continuous Emissions Monitoring page. The Methods 30A/30B rulemaking, published in September 7, 2007 (72 FR 51494), revised PS-12A to allow Methods 30A/30B to be used as reference methods for relative accuracy testing. Contacts: Bill Grimley, MTG, grimley.william@epa.gov, 919-541-1065 and Robin Segall, MTG, segall.robin@epa.gov, 919-541-0893

- **Performance Specification for Predictive Emissions Monitoring Systems (PEMS) (PS-16)** - Performance Specification 16 provides performance criteria for evaluating and accepting PEMS. PEMS are typically used to predict emissions from combustion processes (e.g., NO_x from gas boilers, turbines, and internal combustion engines) through the monitoring of process parameters. Predictive systems have been allowed for a number of years at the State level and the EPA has allowed their use in recently-promulgated federal rules. We proposed PS-16 on August 8, 2005 (70 FR 45608), have compiled the comments received, and expect to promulgate it in May 2008. Contact:

Foston Curtis, MTG, curtis.foston@epa.gov, 919-541-1063

- **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. There are also requirements for the operator to stay within site-specific or rule-specific operating ranges. We recognized the need for more-detailed performance specifications for installing, operating, and maintaining these parametric monitoring systems (e.g. temperature, pressure, pH, liquid flow, conductivity) and have drafted performance specifications and quality assurance requirements that are going through the approval process. We plan to propose these requirements in 2008. Public review and comment will follow the proposal. Contact: Barrett Parker, MPG, parker.barrett@epa.gov, 919-541-5635

New and Revised 40 CFR Part 60, Appendix F, Quality Assurance Procedures for Continuous Monitoring Systems

- **Procedure 2 - Quality Assurance Requirements for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources** - Procedure 2 (69 FR 1786, 1/12/04) was promulgated as a QA accompaniment to PS-11. The guidance being developed for PS-11 will also address Procedure 2 and should be available this summer. Contact: Dan Bivins, MTG, bivins.dan@epa.gov, 919-541-5244

New and Revised 40 CFR Part 63, Appendix A, Test Methods

- **Method 301 Revisions** - Method 301 is the field data validation protocol promulgated on December 29, 1992. The method provides a framework and performance criteria for validating emissions test data (and methods) when no EPA method is available or when proposing an alternative to an existing test method. Comments and questions from the user community have prompted preparation of technical revisions and clarification to the method. Proposed amendments to Method 301 appeared in the Federal Register on December 22, 2004. We received comments from about fifteen parties, several of which were extensive. In late 2006, we obtained contract resources to assist in preparing the final rule package and we now expect to promulgate the amendments in 2008. Contact: Gary McAlister, MTG, mcalister.gary@epa.gov, 919-541-1062

New and Revised 40 CFR Part 51, Appendix M, Test Methods

- **Method 201A Revisions –** Method 201A is used to determine in-stack PM_{10} emissions using a cyclone or cascade impactor. Planned revisions will specify a $PM_{2.5}$ cyclone from a conventional five-stage cascade cyclone train to allow measurement of $PM_{2.5}$. The $PM_{2.5}$ cyclone would be inserted between the PM_{10} cyclone and the filter of the Method 201A train and stack gas is sampled at a predetermined constant flow rate through the in-stack cyclones and filter. Proposal of the Method 201A revisions (which will ultimately replace CTM-040) is planned for 2008. Jason DeWees, MTG,

dewees.jason@epa.gov, 919-541-9724 and/or Ron Myers, MPG, myers.ron@epa.gov, 919-541-5407

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- **Method 207** - Pre-Survey Procedure for Corn Wet-Milling Facility Emission Sources - This pre-survey procedure was developed by the corn wet-milling industry specifically to measure VOC mass emissions from processes within their facilities. It provides a systematic approach to develop a specific list of target organic compounds and the appropriate sampling approach to collect those target compounds during subsequent VOC emissions testing. After using the new pre-survey procedure, the tester will have sufficient information to design a comprehensive testing program using Method 18 and other appropriate methods to measure the mass of VOC emissions during the actual emissions testing. For the purposes of measuring VOC emissions from corn wet-milling facilities, all of the sampling procedures in Method 18 may be used as well as an additional sampling procedure using water filled impingers to collect water soluble VOC. This sampling procedure is described in detail in Method 308 (40 CFR Part 63) and NCASI Method CI/SG/PULP-94.03. The resulting water samples should also be analyzed using the procedures in Method 308 or NCASI Method CI/SG/PULP-94.03. If formaldehyde is a target compound, it may be collected with the water filled impinger collection system, but the sample must be analyzed by procedures other than those in EPA Method 18. Examples of acceptable analytical procedures are those in Method 316 (40 CFR Part 63) or NCASI Method CI/SG/PULP-94.02. Method 207 will be proposed for addition to Appendix M in 2008 and is currently posted on the EMC website as OTM-11. Using new procedures such as Method 207 to measure VOC emissions will create issues for the EPA programs that require that sources report these emissions. EPA has written a letter to the Corn Refiner's Association (available on the EMC website), who represent the corn wet-millers, explaining how it believes these issues might be resolved. Contact: Gary McAlister, MTG, mcalister.gary@epa.gov, 919-541-1062

- **Method 208** - Method for Measuring VOC Mass Emissions from Hot Mix Asphalt (HMA) Plant Dryers - This method is a protocol for collecting, analyzing, and reporting of VOC emissions from HMA plant dryers. It is designed specifically to measure VOC mass emissions from hot mix asphalt plant dryers and was developed by the asphalt paving industry. The method is applicable for the determination of total gaseous concentrations of VOC that consist primarily of alkanes, alkenes, and/or arenes (aromatic hydrocarbons) which comprise the organic emissions from hot mix asphalt dryers. The

mass emission rate of VOC from the HMA plant dryers is expressed in terms of pounds per hour of propane which is appropriate for these kinds of VOC. This procedure will be proposed for addition to Appendix M in 2008 and is currently posted on the EMC website as OTM-12. Contact: Gary McAlister, MTG, mcalister.gary@epa.gov, 919-541-1062

Source Category Approved Alternative Test Methods

These methods, which are published on the EPA website at www.epa.gov/ttn/emc/tmethods.html, are approved alternatives to the methods required by 40 CFR Parts 60, 61 and 63 as described by the General Provisions of the corresponding Parts. As such, they may be used by sources for determining compliance with the requirements of these Parts per their specified applicability provisions without further EPA approval. The Administrator's delegated authority (currently Conniesue Oldham, Group Leader of the Measurement Technology Group), has approved these methods for the specified applications; this approval has been documented through an official EPA letter. These methods include quality control and quality assurance procedures that must be met. The EPA staff may not necessarily be the technical experts on these methods.

- **Federal Register Notice on Broadly Applicable Alternative Test Method Approvals -** This notice published January 30, 2007 (72 FR 4257) announces broadly applicable alternative test method approval decisions that EPA has made under and in support of the New Source Performance Standards and the National Emission Standards for Hazardous Air Pollutants. Although we have made both site-specific and broadly applicable alternative test method approvals in the past, most recently we have issued only site- or facility-specific approvals. This notice announced our plans to issue broadly applicable alternative test method approvals in the future and to post these broadly applicable approvals on the EMC website as well as announce them in the Federal Register. The publication of these broadly applicable alternative test method approvals on our website provides information about options and flexibility for the regulated community that may reduce the burden on source owners and operators in making site-specific alternative test method requests and the permitting authorities and the EPA Administrator in processing those requests. An update announcement of the broadly applicable approval decisions for 2007 will be published in a Federal Register this spring. Contact: Robin Segall, MTG, segall.robin@epa.gov, 919-541-0893 and Jason DeWees, MTG, dewees.jason@epa.gov, 919-541-9724

Other Test Methods

These methods (see EPA website at www.epa.gov/ttn/emc/tmethods.html) are those methods which have not yet been subject to the Federal rulemaking process. Each of these methods, as well as the available technical documentation supporting them, have been reviewed by the EMC staff and have been found to be potentially useful to the emission measurement community. The types of technical information reviewed include field and laboratory validation studies; results of

collaborative testing; articles from peer-reviewed journals; peer-review comments; and quality assurance (QA) and quality control (QC) procedures in the method itself. These methods may be considered for use in federally enforceable State and local programs (e.g., Title V permits, State Implementation Plans (SIP)) provided they are subject to an EPA Regional SIP approval process or permit veto opportunity and public notice with the opportunity for comment. The methods may also be considered as candidates to be alternative methods to meet Federal requirements in 40 CFR Parts 60, 61, and 63; however, they must be approved as alternatives under 60.8, 61.13, or 63.7(f) before a source may use them for this purpose. The methods are available for application without EPA oversight for other non-EPA program uses including state permitting programs and scientific and engineering applications. The EPA strongly encourages the submission of additional supporting field and laboratory data as well as comments in regard to these methods. *We have recently augmented our posting of Other Test Methods by including a table summarizing the supporting information available for each new method posted.*

- **CTM-039 - Measurement of $PM_{2.5}$ and PM_{10} Emissions by Dilution Sampling (Constant Sampling Rate Procedures)** - This method uses the in stack cyclone separation described in CTM-040, however, procedures for characterizing the condensable particulate matter are improved and expanded with the removal of the in-stack 47-mm filter, the addition of a system to dilute and cool the sample gas, and the addition of a 142-mm filter to collect the filterable $PM_{2.5}$ and the particulate matter condensed through the dilution and cooling of the sample gas. Because the sample gas is cooled and diluted to near ambient conditions, aliquots of the diluted sample gas can be extracted prior to the 142-mm filter for collection and analysis by ambient air methodologies. These procedures have been evaluated at coal fired utilities. We are planning to conduct additional evaluation of this approach and then propose and promulgate it as part of Appendix M to 40 CFR Part 51. Contact: Ron Myers, MPG, myer.ron@epa.gov, 919-541-5407 and Jason DeWees, MTG, dewees.jason@epa.gov, 919-541-9724

- **PRE-008 - Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems** - This preliminary method describes an approach for determining the opacity of visible emissions through the use of digital photographs taken of the emission source plume. The photographs are processed using computer software that determines percent opacity using information available from the digital or digitized images. The positioning of the camera is similar to the observer requirements of Method 9 (40 CFR 60, Appendix A) as are the reporting requirements. A descendant of this method is currently moving through the ASTM process. Contact: Jason DeWees, MTG, dewees.jason@epa.gov, 919-541-9724

- **OTM-10 - Optical Remote Sensing for Emission Characterization from Non-Point Sources** – Prior to development of this method, there was no standard protocol for making measurements of emissions flux from fugitive or non-point sources. From 2002 to 2005, EMC participated in a Department of Defense sponsored project conducted by ARCADIS to validate a path-integrated optical remote sensing (PI-ORS) based approach to locate and quantify fugitive emissions using controlled releases of various gases. This

approach utilizes multiple beam paths and optimizing algorithms to yield a time-averaged, mass-equivalent concentration field across a contaminant plume from which, using wind data, the emission rate can be determined. This validated peer-reviewed protocol for making these measurements was posted on the EMC website in July of 2006 and has been used in a number of recent projects involving measurement of pollutants from the landfills, agricultural sources, and a chlor-alkali plant. Contact: Robin Segall, MTG, segall.robin@epa.gov, 919-541-0893

- **OTM-11 –** This method will be proposed as Method 207 (see prior discussion on Method 207).

- **OTM-12 –** This method will be proposed as Method 208 (see prior discussion on Method 208).

- **OTM-13 - Periodic Monitoring Test Method for Measuring Oxygen, Carbon Monoxide and Oxides of Nitrogen from Stationary Sources (Multi-gas Portable Optical Bench Instruments)** – This method can be used for determining nitrogen oxides (NOx, NO and NO_2), carbon monoxide (CO), and oxygen (O2) using portable instruments. Typical sources include controlled and uncontrolled combustion facilities firing fuels such as coal, natural gas, propane, butane and distillate fuel oils. This method provides guidance for using portable instrument for periodic monitoring and assuring that test results are correct. This method was provided by ICAC and recently posted on the EMC website. Contact: Foston Curtis, MTG, curtis.foston@epa.gov, 919-541-1063

- **OTM-14 – Method for Measuring Isocyanates in Stationary Source Emissions** -This method is applicable to the collection and analysis of 2,4-Toluene Diisocyanate, 1,6-Hexamethylene Diisocyanate, Methylene Diphenyl Diisocyanate, and Methyl Isocyanate in emissions from manufacturing processes. The gaseous and/or aerosol isocyanates are withdrawn from an emissions source at an isokinetic sampling rate and collected in a multi-impinger sampling train with derivatizing reagent in toluene and charcoal. The impinger contents are concentrated to dryness under vacuum, brought to volume in acetonitrile and analyzed by high pressure liquid chromatography. This method was proposed as Method 207 on December 8, 1997; however, the decision has been made not to promulgate it at the current time, so it has been posted on the website as OTM-14 for use by industry and State and local agencies. Contact: Gary McAlister, MTG, mcalister.gary@epa.gov, 919-541-1062

Improving Emissions Monitoring through Rulemaking

- **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 for both statutory monitoring requirements and operating permits issued under title V of the Act. We also requested comment on ways to update and/or 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 to update emissions monitoring and testing provisions in parts 60, 61, and 63.. We expect to target those regulations where monitoring would improve assurance of significant emissions reductions. Currently, we are evaluating the parts 60 and 63 regulations as required by the Clean Air Act to determine whether updates/revisions (including emissions monitoring and performance testing) are needed. Contact: Tom Driscoll, MPG, 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). The EPA was sued by environmental action groups on this rulemaking. Oral arguments were heard on February 8, 2008 and a written ruling is expected later this year. Contact: Peter Westlin, MPG, 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). The rule revisions' documents are currently undergoing internal review. Public review and comment will follow any rule proposal. Contact: Peter Westlin, MPG, westlin.peter@epa.gov, 919-541-1058

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).

  We plan to revise this document and publish revisions to the detailed EF development procedures on our website later in 2008. Contact: Ron Myers, MPG, 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. Last year, we submitted a report describing the technical approach and the results to Congress and the Office of Management and Budget. We also put the report on the MPG website (www.epa.gov/ttn/chief/) to seek more public comment. Currently, EPA OAQPS is considering how to implement the uncertainty findings in this report. Contact: Barrett Parker, MPG, parker.barrett@epa.gov, 919-541-5635

- **WebFIRE** – The Factors Information REtrieval system (WebFIRE) (http://cfpub.epa.gov/oarweb/index.cfm?action=fire.main) is on the TTN. WebFIRE is an automated data base that replaces the existing AP-42 documents (AP-42 sections, supporting background reports and source test reports) with an electronic storage and calculation program. The database provides storage of complete source test reports; extracts associated process, control device, and emissions data from source test reports; and may eventually automatically calculate the arithmetic mean of the data in individual source test reports to provide updated emissions factors. When completed, uncertainty information (when we determine a policy for implementing uncertainty information) based upon emissions test characteristics and applications can be included, enabling users to obtain the information that they need to make informed decisions. 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. In 2008, we plan to continue our development efforts by making further enhancements and refinements to the system as well as populating the system with data from AP-42. Contact: Michael Ciolek, MPG, ciolek.micheal@epa.gov, 919-541-4921

- **WebFIRE 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 and/or planned for 2008 include:

- Iron and steel minimills – anticipate finalizing this section by September 2008 with a description of the industry and revised EFs for PM (filterable and condensable), NO_x, CO, SO_2, lead, fluoride, and VOC,
- Ordnance detonation – continue to develop final and new draft sections describing the weapons and the emissions produced by detonation including criteria pollutants, CO_2, and hazardous and toxic pollutants,
- Fugitive Dust Emissions from Paved and Unpaved Roads – the Department of Defense and Clark County are developing emissions factors for paved roads at low speeds,
- Refineries – development of formaldehyde emissions factors for petroleum refineries,
- Rubber Manufacturing – data have been collected to develop new emissions factors but are awaiting decision on EPA data uncertainty status,
- Landfills – data have been collected and compiled and is currently going through peer review for new and revised emissions factors,
- Taconite Ore industry – developing emissions information for larger weight vehicles for unpaved roads, and
- Coke Ovens – anticipate finalizing emissions factors for all emissions points by June 2008, but are specifically responding to revised HCl emissions factors that have been recently entered into WebFIRE.

Contacts: Michael Ciolek, MPG, ciolek.michael@epa.gov, 919-541-4921, John Schaefer, Schaefer.john@epa.gov, (919) 541-0296, and John Bosch, MPG, bosch.john@epa.gov, 919-541-5583

Tools for Improved Monitoring and Testing

Electronic Reporting Tool (ERT) - On October 15, 2007 an updated version of the Electronic Reporting Tool (ERT) was posted to the CHIEF website at http://www.epa.gov/ttn/chief/ert/ert_tool.html. The ERT is a Microsoft Access desktop application and is an electronic alternative for paper reports documenting nineteen of EPA's emissions measurement methods for stationary sources. The test methods supported by ERT Version 3 include the following: Methods 1 through 4, Method 3A, Method 5, Method 6C, Method 7E, Method 10, Method 17, Method 25A, Method 26A, Method 29, Method 101, Method 101A, Method 201A, Method 202, CT Method 39 and CT Method 40. The pollutants quantified by these test methods include: Filterable Particulate Matter, Condensable Particulate Matter, Filterable PM10, Filterable PM2.5, Carbon Monoxide, Chlorine, Chloride, Hydrogen Chloride, Total Chloride, Nitrogen oxides (NOx), Sulfur Dioxide, Metals (Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Lead, Manganese, Mercury, Nickel, Phosphorus (yellow or white), Selenium, Silver, Thallium and Zinc) and Total organic compounds (TOC) (as Carbon, Ethane, Methane, Propane). 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 and Local Air Pollution Control 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. Contact: Ron Myers, MPG, myers.ron@epa.gov, 919-541-5407

- **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 decided to open the RBLC to Canada and Mexico, so they could enter their permitting data. The Spanish language version of the RBLC is now available to all and country specific versions of the RBLC standalone data entry program should be available in early 2008 thus allowing both Mexico and Canada the ability to input data. In addition, the RBLC is currently undertaking a project to upgrade the RBLC internal programming replacing antiquated code and improving some of the system features like data formatting and various search functions. This project, the RBLC Efficiency Upgrade and Security Enhancements (REUSE), is scheduled to be completed in late 2009. Since the REUSE project is still in the early stages, we welcome any type of user feedback and/or suggestions so we may incorporate them into the updated system. Contact: Iliam Rosario, MPG, rosario.iliam@epa.gov, 919-541-5308

- **Smart Leak Detection and Repair (Smart LDAR)** - The current work practice standard for assessing process equipment leaks under 40 CFR Parts 60, 61, and 63 requires the use of an instrument meeting the performance specifications of EPA Method 21. This work practice standard is based on 25-year-old techniques. Innovative technology is being developed which we believe can provide at least equal, if not better,

environmental protection than that which is being provided by the current work practice. API has provided field tests and laboratory data to assist in demonstrating the performance of infra-red camera technology to image leaks from valves, flanges, compressors, and other similar equipment. On April 6, 2006 EPA published a regulatory proposal taking comment on a voluntary alternative work practice for finding leaking equipment using optical imaging. The comment period ended July 5, 2006 and promulgation is planned for the end of 2008. Contact: Bill Grimley, MTG, grimley.william@epa.gov, 919-541-2580

- **Fugitive VOC and Dust Emissions Measurement** – We continue to focus on more complete and accurate characterizations of fugitive VOC and fugitive dust emissions. We also continue to examine policy implications of using such technology. We are holding numerous stakeholder workshops on the availability and capabilities of various testing and monitoring technologies using open path optical remote sensing tools. Contact: John Bosch, MPG, bosch.john@epa.gov, 919-541-5583

- **CEMS Cost Model Update** – This model provides initial costs, annual operating costs, and QA/QC costs for continuous emissions monitoring systems (CEMS). The previous update of the model was done in 1995. A new update to the model was completed in September 2007 and includes costs for mercury CEMS and bag leak detection monitoring systems as well as updated cost values to other inputs to the model. The updated model was also converted to an MS Excel spreadsheet and has been recently posted on the EMC website (http://www.epa.gov/ttn/emc/cem/cems.xls). Contact: Dan Bivins, MTG, bivins.dan@epa.gov, 919-541-5244

- **Stationary Source Audit Program (SSAP) Database** - EMC has an electronic database for use by Federal, State, Local, and Tribal Agency personnel to electronically order and receive pass/fail notice on audit samples. The database compiles the audit results in several report formats that allow the QA Team and Agency staff to review the results for particular types of audit samples. Currently, there are audit materials for Methods 6, 7, 8, 12, 13A and 13B, 23, 24 (inks and solvents), 25, 26, 26A, 29, 101A, and 315. Registration requests can be submitted to Candace Sorrell, MTG, at the e-mail address or telephone number below. EPA is currently looking into restructuring the SSAP to provide an opportunity for expansion and to give it more stability. One option being considered would allow accredited sample providers to supply the audit samples directly to the regulated sources. A decision on the preferred option will be made soon, and implementation plans will be forthcoming. The EMC QA team also conducts teleconference calls on the first Monday of every month from 1:30-3:30 pm (EST) to discuss audit and other emission testing issues. Agendas for these conference calls can be obtained by contacting Candace. Contact: Candace Sorrell, MTG, Sorrell.candace@epa.gov, 919-541-1064

- **ASTM Activities** - EMC contacts participate as committee members on ASTM Subcommittees (e.g., D22-03 and E56-04) primarily to encourage development of new stack test methods where we anticipate a future need that is not met by a current EPA

method. In addition, EPA considers all available voluntary consensus methods in the process of rulemaking and offers appropriate methods as regulatory alternatives. We have recently been participating in ASTM standard development efforts for: (1) a dilution sampling train method for measurement of PM fine including condensable PM, (2) an opacity measurement method based on digital camera technology, and (3) a bag leak detector protocol for application to cement plants. Contacts: Mike Toney, MTG, 919-541-5247, Dan Bivins, MTG, bivins.dan@epa.gov, 919-541-5244, and Jason DeWees, MTG, dewees.jason@epa.gov, 919-541-9724

- **Fence Line Monitoring of Metals** – EMC has a project underway to evaluate X-Ray fluorescence technology as a fence line and mobile "hot spot" ambient monitor. The use of X-Ray fluorescence technology has been proven at the source level as a continuous emissions monitor (CEMs). These X-Ray fluorescence CEMs have been redesigned with a $PM_{2.5}$ inlet and will be tested in several scenarios for various point and area sources. These scenarios include source apportionment using modeling, use of the monitor in a mobile platform to determine ruggedness, and evaluate its use as a "hot spot" monitor, and combined with a MET station as a fence line monitor. We plan to test these scenarios near an electric melting source in Portland, OR and with the partnership of ORD in auto body shops in the Boston, MA area. Contact: Dan Bivins, MTG, bivins.dan@epa.gov, 919-541-5244

- **Greenhouse Gas (GHG) Emissions Reporting** - The FY2008 Consolidated Appropriations Amendment, signed by the President on December 26, 2007, "… authorizes EPA to develop and publish a draft rule (no later than 9 months after the date of enactment of the amendment, September 2008) and a final rule (no later than 18 months after the date of enactment of the amendment, September 2009) to require mandatory reporting of GHG emissions above appropriate thresholds in all sectors of the economy. EPA was further directed to include in the rule reporting of emissions resulting from upstream production and downstream sources, to the extent that the Administrator deems it appropriate. The Administrator shall determine appropriate thresholds of emissions above which reporting is required, and how frequently reports shall be submitted to EPA." MPG's role in this project will be to evaluate and work with stakeholders to develop better emissions factors and to review data submissions as needed. Contact: Tom Driscoll, MPG, driscoll.tom@epa.gov, (919) 541-5135