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## OAQPS Measurement and Monitoring Projects – 2012/2013

Environmental Protection Agency  
Office of Air Quality Planning and Standards  
Air Quality Assessment Division, Measurement Technology Group (MTG)  
Sector Policies and Programs Division, Measurement Policy Group (MPG)  
(<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 Update Rulemaking** – Over the last 10 years, EMC has been cataloging errors and other needed revisions to test methods, performance specifications, and associated regulations in 40 CFR parts 60, 61, and 63. Many of these needed revisions have been brought to our attention by affected parties and end-users. The corrections and revisions consist primarily of technical errors in equations and diagrams, the addition of alternative equipment or methods the Agency has found acceptable to use, removal of requirements to use mercury-in-glass thermometers, and typographical errors. Updates are being made to Methods 1, 2, 2A, 2B, 2D, 3A, 4, 5, 5A, 5E, 5H, 6, 6C, 7, 7A, 7E, 8, 10, 10A, 11, 12, 14A, 16A, 18, 23, 24, 25, 25C, 25D, 26, 29, 30B, 101, 101A, 102, 104, 108, 108A, 306, 306A, 308, 315, 316, and 321; Performance Specifications 1, 3, 4, 4B, 7, 11, 15, and 16; and Procedures 1, 2, and 5 of Appendix F. The proposed rule was published in the Federal Register on January 9, 2012 (77 FR 1130). Final Rule publication is projected for late 2013. Contact: Foston Curtis, MTG, [curtis.foston@epa.gov](mailto:curtis.foston@epa.gov).
- **Method 2H Revisions** – Method 2H describes the procedures to determine the decay of stack gas velocity near the wall of circular stacks. On August 25, 2009 (74 FR 42819), we proposed revisions to Method 2H to incorporate the improvements from CTM-041 for assessment of wall effects for rectangular stacks which have been frequently requested for use through the petition process of the Acid Rain Program. These revisions would 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. Comments were received on the proposal and promulgation has been rescheduled for late 2013. Contact: Jason DeWees, MTG, [dewees.jason@epa.gov](mailto:dewees.jason@epa.gov).
- **Method 16C - Determination of Total Reduced Sulfur Emissions from Stationary Sources** - Method 16C uses the sampling procedures of Method 16A and the analytical procedures of Method 6C to measure total reduced sulfur (TRS). TRS is defined as hydrogen sulfide, methyl mercaptan, dimethyl sulfide, and dimethyl disulfide. The sample is collected from the source through a heated probe and immediately conditioned in a citrate buffer scrubber. The conditioned sample is oxidized in a tube furnace to convert TRS to sulfur dioxide (SO<sub>2</sub>). The oxidized sample is then analyzed for SO<sub>2</sub>. Any analyzer that measures SO<sub>2</sub> and can meet the performance requirements in Method 6C may be used. Method 16C will allow testers to use analyzers and procedures for measuring TRS that they already have available and use in measuring SO<sub>2</sub>. Method 16C was promulgated on July 30, 2012. Contact: Foston Curtis, MTG, [curtis.foston@epa.gov](mailto:curtis.foston@epa.gov).

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

- **Performance Specification 11 Revisions and Guidance** – Corrections and clarifications to the equations and confidence and tolerance interval calculations in the Specifications and Test Procedures for Particulate Matter Continuous Emission Monitoring Systems at Stationary Sources (PS-11) were finalized on March 25, 2009 (74 FR 12575). The preamble to the 2009 revisions signaled forthcoming guidance on precision

and bias, handling of paired train data, example calculations, spreadsheets, stratification, and auditing. As part of this commitment, we posted a set of files on the EMC FAQ web page associated with PS-11 that includes a spreadsheet and instructions for evaluating correlation test data to demonstrate compliance with PS-11 as well as information on evaluation of response correlation audit (RCA) data and evaluation of particulate matter stratification in ducts and stacks, summary sheets on audit and routine system checks required by Procedure 2 for PM CEMS, and question and answer documents. We are planning to follow this posting up with issuance of a guidance document. In addition, the upcoming Test Methods Update Rulemaking will include corrections to the correlation equations in PS-11. Contact: Dan Bivins, MTG, [bivins.dan@epa.gov](mailto:bivins.dan@epa.gov) and Kim Garnett, [garnett.kim@epa.gov](mailto:garnett.kim@epa.gov).

- **HCl CEMS Performance Specification** – We are preparing a flexible measurement based Performance Specification (PS-18) for HCl CEMs to support standards for the Mercury and Air Toxics rule, and the Portland Cement MACT Standard. The draft is a result of work with stakeholder(s) and vendors who provided information on current HCl CEM availability and performance. We held a series of conference calls with the stakeholders to discuss technology, the current status of field measurement implementation, and the availability of certified calibration and reference gas standards. Like PS 15 for FTIR continuous emissions monitoring, the draft HCl CEMS Performance Specification is appropriate for measuring HCl emissions in the range of 0 to 5 ppm, but unlike PS 15 it is designed to be technology neutral. An initial draft and a revised draft of the HCl CEM Performance Specification were distributed to the stakeholder group in 2012. We anticipate continuing our stakeholder involvement, receiving field and laboratory results that evaluate the ability of various technologies to meet PS 18 requirements, and issuing a third draft in early February 2013. Our current timeline for to propose the performance specification is June 2013 to enable final promulgation by September 2014. Contacts: Candace Sorrell, MTG, [sorrell.candace@epa.gov](mailto:sorrell.candace@epa.gov), 919-541-1064 and Ray Merrill, MTG, [merrill.raymond@epa.gov](mailto:merrill.raymond@epa.gov), 919-541-5225.
- **Bag Leak Detection System Performance Specification** - EPA has just begun the process of developing a performance specification for Bag Leak Detection Systems (BLDS). This effort will expand upon EPA's current BLDS Guidance and not be limited to only triboelectric technology. A quality assurance procedure is also expected to be included in this endeavor. This process is in its earliest stages, but the plan is to convene a stakeholder group and collect input from vendors and other interested parties. If you would like to participate in this process, please let us know. Contacts: Kim Garnett, MTG, [garnett.kim@epa.gov](mailto:garnett.kim@epa.gov), 919-541-1158 and Dan Bivins, MTG, [bivins.dan@epa.gov](mailto:bivins.dan@epa.gov), 919-541-5244.

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

- **Procedure 3- Quality Assurance Requirements for Continuous Opacity Monitoring Systems at Stationary Sources** - EPA has just published a direct final and a parallel proposed rule to establish quality assurance and quality control (QA/QC) procedures for continuous opacity monitoring systems (COMS) on February 14, 2012 (77 FR 8160). The QA/QC requirements are being revised to address public comments and we expect to publish the final Procedure 3 by August 2013. Contact: Lula Melton, MTG, [melton.lula@epa.gov](mailto:melton.lula@epa.gov), 919-541-2910 and Solomon Ricks, AAMG, [ricks.solomon@epa.gov](mailto:ricks.solomon@epa.gov), 919-541-5242.

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

- **Draft Method 325A and 325B for Passive Fenceline Monitoring for Fugitive and Area Sources** - We have drafted a method to assess fugitive/area source emissions that uses sorbent tubes coupled with thermal desorption and gas chromatographic-based analysis. The method includes field placement (M-325A) of sorbent tubes that passively accumulate volatile organic compound (VOC) from air at or near area or fugitive emission sources and gas chromatographic analysis of the tubes (M-325B). The first phase of the project included standardizing the sampling and analysis method based on method performance from several studies including a recent validation effort conducted at a refinery in 2009. The second phase of the project involved an initial assessment of the ability of commercial analysis laboratories to perform M-

325B through a round robin of spiked and field sample replicates. The third phase of the project envisions collaborating with field projects that already collect active samples containing VOC to enable comparison between active and passive monitoring at a variety of sources and under different meteorological conditions. The portability and small size of typical sampling packages for passive sorbent-based sampling and the wide range of sorbent choices make this monitoring approach appealing for special monitoring studies of human exposure to toxic gases and the measurement of VOC from area or fugitive emission sources. We anticipate the passive monitoring procedures will be used as one of a combination of tools to identify and quantify emissions from fugitive and area sources. In the future, the passive sorbent tube measurement approach may be combined with active sorbent tubes, canister-based monitoring methods, on-site auto GC systems, open path instrumentation, and other specialized point monitoring instruments to address measurement needs for volatile organic gases around fugitive and area emission sources. We're targeting proposal of these methods as part of the Refinery MACT due for release in 2013. Contacts: Ray Merrill, MTG, [merrill.raymond@epa.gov](mailto:merrill.raymond@epa.gov) and Jason DeWees, [dewees.jason@epa.gov](mailto:dewees.jason@epa.gov).

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

- **Methods 201A and 202 Revisions** - Revisions to Methods 201A and 202 for fine PM emissions were promulgated on December 21, 2010 (74 FR 12970). Clarifications to the methods posted following promulgation on the Frequently Asked Questions sections of the EMC website for the two methods are being formalized in the proposal to update the methods. We have started a project to evaluate and propose minor changes to Methods 201A and 202. Contacts: Ron Myers, MPG, [myers.ron@epa.gov](mailto:myers.ron@epa.gov), Jason DeWees, MTG, [dewees.jason@epa.gov](mailto:dewees.jason@epa.gov), and Ray Merrill, MTG, [merrill.raymond@epa.gov](mailto:merrill.raymond@epa.gov).

### **Source Category Approved Alternative Test Methods**

These methods, published on the EPA/EMC website at [www.epa.gov/ttn/emc/tmethods.html](http://www.epa.gov/ttn/emc/tmethods.html), are approved alternatives to the methods required by 40 CFR Parts 59, 60, 61, 63 and 65 as described by the General Provisions and/or subparts 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, 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. Note that EPA staff may not necessarily be the technical experts on these method alternatives.

- **Federal Register Notice on Broadly Applicable Alternative Test Method Approvals** -The first of these notices, published January 30, 2007 (72 FR 4257), announced broadly applicable alternative test method approval decisions that EPA had made prior to 2007 under and in support of the New Source Performance Standards and the National Emission Standards for Hazardous Air Pollutants. 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. Updated announcements of the broadly applicable approval decisions for 2007, 2008, 2009, 2010, and 2011 were published in the Federal Register on April 7, 2008 (73 FR 18794), February 26, 2009 (74 FR 8791), February 22, 2010 (75 FR 7593), February 22, 2011 (76 FR 9777), and February 15, 2012 (77 FR 8865). We are in the process of developing the Federal Register notice for broadly applicable approval decisions made in 2012. Contact: Lula Melton, MTG, [melton.lula@epa.gov](mailto:melton.lula@epa.gov), Jason DeWees, MTG, [dewees.jason@epa.gov](mailto:dewees.jason@epa.gov), and Robin Segall, MTG, [segall.robin@epa.gov](mailto:segall.robin@epa.gov).

## Other Test Methods

These methods, published on the EPA/EMC website at [www.epa.gov/ttn/emc/tmethods.html](http://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 now augmented our posting of Other Test Methods by including a table summarizing the supporting information available for each new method posted.*

- **OTM for Wind Blown Dust** - Recently, the Measurement Technology Group (MTG) was contacted by the Center for Study of Open Source Emissions (CSOSE), which is a research center for measurement method development for open source dust and particle pollution. CSOSE submitted to MTG for consideration a method which describes how to measure wind blown particulate matter (PM) emissions from open areas susceptible to wind erosion. The method relies on comparing saltation flux to the difference in upwind and downwind ambient PM concentrations to quantify the PM emissions. Saltation flux is a mass flux measurement of the horizontal movement of windblown sand and sand-sized particles. Depending on the type of ambient PM monitoring used, PM emissions can be quantified as particulate matter less than 2.5 microns (PM<sub>2.5</sub>), less than 10 microns (PM<sub>10</sub>), or the coarse fraction of PM<sub>10</sub> (PM<sub>10-2.5</sub>). MTG has performed a technical review of the method and has sent comments to CSOSE. Once comments are addressed, the method will be considered an Other Test Method (OTM) and placed on the EMC website. Contact: Dennis Mikel, [mikel.dennisk@epa.gov](mailto:mikel.dennisk@epa.gov).

## Tools for Improved Monitoring and Testing

- **Technical Foundation for Potential Future Optical Gas Imaging (OGI) Protocol**– MTG is undergoing a project to assess the technical underpinnings necessary to support a possible future rulemaking to govern the use of OGI for leak detection and repair or other work practice standards. We are trying to quantitatively determine the detection capabilities for these instruments and parameter envelopes for their use. Some of the parameters of interest include background versus gas temperatures, homogeneity of the thermal background, wind speed, relative humidity, and composition and concentration-depth of the gas versus the performance of the OGI instrument. Contacts: Jason DeWees, [dewees.jason@epa.gov](mailto:dewees.jason@epa.gov), Robin Segall, [segall.robin@epa.gov](mailto:segall.robin@epa.gov), Gerri Garwood, [garwood.gerri@epa.gov](mailto:garwood.gerri@epa.gov)
- **PM 2.5 Method/CEMS Development for Wet Stacks** - The goal of this project is development of an instrumental test method and a PM 2.5 monitor that will perform under wet stack conditions. The development of this method and technology is important for the SIP PM fine implementation program and for emission factor development. The PM 2.5 CEMS utilizes an in-stack droplet separator, followed by a dilution chamber with an ambient air Federal Reference Method or FRM at the end for PM 2.5. The prototype CEMS has been successfully evaluated under dry stack conditions and is now being tested under wet stack conditions. We have performed modeling to optimize the design of the IDS and then performed monodisperse testing on the resulting IDS at the University of Minnesota. These results were promising. We hope to continue with more modeling and some possible field work in the coming year. Contact: Dan

Bivins, MTG, [bivins.dan@epa.gov](mailto:bivins.dan@epa.gov), Jason DeWees, [deweese.jason@epa.gov](mailto:deweese.jason@epa.gov), and Kim Garnett, [garnett.kim@epa.gov](mailto:garnett.kim@epa.gov).

- **Upstream Oil and Gas Emissions Measurement** – Volatile organic compound (VOC), HAP and GHG emissions from upstream oil and gas production are currently of significant interest due to ozone NAAQS exceedences in areas with large increases in oil and gas production, the possible risk implications, and future GHG regulations. MTG and EPA/ORD staff have been working together to quantify VOC, HAP and GHG emissions from upstream oil and gas production operations to better characterize emissions from this sector. In 2008, the first phase of this project was conducted to measure emissions from two produced water treatment facilities. The report of that work is available on the EPA website at: [http://cfpub.epa.gov/si/si\\_public\\_record\\_Report.cfm?dirEntryId=213869](http://cfpub.epa.gov/si/si_public_record_Report.cfm?dirEntryId=213869) In August of 2009, we conducted preliminary drive-by measurements of multiple production pads in Colorado in EPA Region 8 using a very fast and sensitive methane point monitor coupled with wind and GPS measurements on a mobile platform. We found this combination to be extremely effective in detecting emissions from these sources. In 2010 and 2011, we conducted a total of five field campaigns in Greeley, CO, Fort Worth, TX, and Pinedale, WY to further develop this mobile assessment approach, called Geospatial Measurement of Air Pollution Remote Emission Quantification or GMAP REQ. The approach allows for drive-by measurement of potential sources without the necessity of gaining site access. It uses a sensitive, very high time resolution methane instrument, advanced wind measurements, and a precise global positioning system all on a mobile platform to map emissions of methane; resulting data are processed to yield emissions flux using two primary algorithms, point source Gaussian and backwards Lagrangian stochastic (bLs). Other VOC and HAPs are estimated through SUMMA canister ratio calculations. We hope to have a draft measurement protocol by the end of 2013. Contacts: Jason DeWees, [deweese.jason@epa.gov](mailto:deweese.jason@epa.gov), Robin Segall, [segall.robin@epa.gov](mailto:segall.robin@epa.gov), and Eben Thoma, ORD NRMRL, [thoma.eben@epa.gov](mailto:thoma.eben@epa.gov).
- **Large Area Source Remote Emissions Measurement** – In work with EPA's ORD, we have found that large area sources present challenges to our remote measurement approaches. This project is focused on development of methodology for testing large area sources such as landfills that are generally larger than the optical path lengths provided by current remote sensing technology including open path Fourier transform infrared and tunable diode laser instruments. We are working on two different approaches for measurement of these sources. The first approach is a planned addendum to Other Test Method 010 (OTM-010) for large area sources. This approach uses an estimated "fetch" of the vertical radial plume mapping plane located inside a large area source. The estimated fetch is used to determine how much area would contribute to the flux measured by the OTM-010 measurement plane. This technique works best with an area source with a homogeneous emission profile. The approach has been described in a conference paper and we eventually plan to publish the addendum to OTM-010 describing how to utilize it. The second approach uses quantified releases of tracer gas from within the large area source. The tracer gas and component of concern are then measured downwind using a sensitive point monitor installed in a mobile platform such as an SUV; measurements are made as transects or at a stationary point within the plume. The total mass emissions of the component of concern can then be calculated using the ratio between the tracer and target component. We are planning to analyze additional tracer gas data and will likely publish a protocol in 2013. Contacts: Jason DeWees, [deweese.jason@epa.gov](mailto:deweese.jason@epa.gov), Eben Thoma, ORD NRMRL, [thoma.eben@epa.gov](mailto:thoma.eben@epa.gov), and Robin Segall, [segall.robin@epa.gov](mailto:segall.robin@epa.gov).
- **Fenceline Monitoring of Metals** – EMC has completed a project to evaluate X-ray fluorescence (XRF) technology as a fence line and mobile "hot spot" ambient monitor. The use of XRF technology has been proven at the source level as a continuous emissions monitoring system (CEMS). These XRF CEMSs have been redesigned with a PM<sub>10</sub> inlet and a more sensitive analyzer (tube and detector) were tested in several scenarios for various point and area sources. The monitor in a mobile platform was evaluated against two Federal Reference Method (FRM) ambient PM monitors (with subsequent metals analysis of the PM filters) to determine ruggedness, relative accuracy, and precision. It was assessed for use as a "hot spot" monitor and combined with a MET station as a fence line monitor. We examined its use for source apportionment in 2008 near an electric melting source in Portland, OR and ran the study to assess accuracy and precision against the FRM in the St. Louis and Herculaneum, MO areas during 2009. A final document entitled "Guide for Developing a Multi-Metals, Fence-Line Monitoring Plan for Fugitive

Emissions Using X-Ray Based Monitors” is now available on the EMC website. Contact: Dan Bivins, MTG, [bivins.dan@epa.gov](mailto:bivins.dan@epa.gov).

- **Handbook for Remote Measurement and Monitoring of Stationary Sources of Emissions** – Last year we completed work on a compendium of remote measurement and monitoring techniques applicable to stationary sources. This handbook addresses both remote measurement technologies and measurement approaches utilizing these technologies, including applicability of the approaches, strengths and limitations, and verification and validation information available, and example DQO/MQOs and QAPPs,. The first external draft of this handbook which is a living document to be updated as techniques advance has been posted on the EMC website at: <http://www.epa.gov/ttn/emc/guidlnd/gd-052.pdf>. Contacts: Dennis Mikel, [mikel.dennisk@epa.gov](mailto:mikel.dennisk@epa.gov), Ray Merrill, [merrill.raymond@epa.gov](mailto:merrill.raymond@epa.gov), Jason DeWees, [deweese.jason@epa.gov](mailto:deweese.jason@epa.gov), and Robin Segall, [segall.robin@epa.gov](mailto:segall.robin@epa.gov).
- **GHG Measurement & Monitoring Handbook** - The Greenhouse Gas (GHG) Measurement & Monitoring Handbook describes existing and developing methods and technologies used to measure emissions of the following GHGs from point and non-point emissions sources: carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), fluorocarbons (FC), sulfur hexafluoride (SF<sub>6</sub>), and nitrogen tri-fluoride (NF<sub>3</sub>). This handbook is intended to be a resource for regulatory agencies and interested parties that are involved in GHG emissions and measurements. The document is currently being drafted and internally reviewed. Contacts: Dennis Mikel, [mikel.dennisk@epa.gov](mailto:mikel.dennisk@epa.gov) and Kristen Benedict, [benedict.kristen@epa.gov](mailto:benedict.kristen@epa.gov).
- **Data Mining** - The data mining project involves the accumulation, indexing, and evaluation of field data reports submitted to the Agency. Field data reports were collected through Information Collection Requests (ICRs) sent out as part of source specific rulemakings. Data for nineteen different rules was collected through this process. The information will be used to understand the limits of manual methods and identify potential method updates. Contacts: Kristen Benedict, [benedict.kristen@epa.gov](mailto:benedict.kristen@epa.gov).
- **Stationary Source Audit Program (SSAP) and EMC QA Conference Call** – Audit samples have historically been used as one quality assurance element in evaluating the validity of compliance test data. In the past, there were no private entities who supplied stationary source emissions test audit samples, so EPA provided them free of charge to the regulatory agencies responsible for overseeing compliance testing (state and local agencies and EPA Regional Offices). Over the past few years with the emergence of accreditation programs, there has been an increasing need for such samples, and a number of private providers have emerged. EPA believes it is no longer necessary for it to supply audit samples and, therefore, has decided to restructure the audit program to allow private accredited suppliers to provide audit samples to industries for use in compliance testing at stationary source facilities. To accomplish this shift in the stationary source audit program, we have promulgated amendments (75 FR 28 55636; 8/13/2010) to the general provisions of 40 CFR Parts 60, 61, 63, and 51 that will (1) allow accredited providers to supply stationary source audit samples and (2) require affected sources to obtain these samples from the accredited providers and use them in their compliance testing programs. This program restructuring will likely increase the number, types, and concentration ranges of audit samples available and will clarify how the samples are to be obtained and used. ERA ([www.eraqc.com](http://www.eraqc.com)) has recently been approved as an Accredited Audit Sample Provider. A list of methods for which audit samples are available from ERA is available on the TNI website at [www.nelac-institute.org/ssas](http://www.nelac-institute.org/ssas). Please note that the EPA restructured program requires that two accredited providers be available and that available audit samples be listed on the EMC website 60 days before audits are required. The EMC website will be updated as accredited audit sample providers and new audit samples become available.

The EMC QA team also conducts teleconference calls on the first Monday of every month from 1:30-3:30 pm (EST) to discuss auditing and other emission testing issues. Since the EPA audit program no longer exist, the call has recently focused primarily on testing issues. Agendas for these conference calls can be obtained by contacting Candace Sorrell. Contact: Candace Sorrell, MTG, [sorrell.candace@epa.gov](mailto:sorrell.candace@epa.gov).

- **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) methods for low mass fireplaces, masonry heaters, hydronic heaters, and pellet stoves; (2) a dilution sampling guideline for measurement of PM fine including condensable PM; (3) an opacity measurement method based on digital camera technology which has now been published (see below); and (4) a bag leak detector protocol for application to cement plants. Contacts: Mike Toney, MTG, [tony.mike@epa.gov](mailto:tony.mike@epa.gov), Dan Bivins, MTG, [bivins.dan@epa.gov](mailto:bivins.dan@epa.gov), and Jason DeWees, MTG, [dewees.jason@epa.gov](mailto:dewees.jason@epa.gov).
- **ASTM D7520 - 09 Standard Test Method for Determining the Opacity of a Plume in the Outdoor Ambient Atmosphere (DCOT) Digital Camera Opacity Technique** - This test method describes the procedures to determine the opacity of a plume caused by particulate matter emitted from a stationary point source using digital imagery and associated software and hardware. The opacity is determined by the application of a Digital Camera Opacity Technique (DCOT) that consists of a Digital Still Camera, Analysis Software, and an Output Function to obtain and interpret digital images to determine and report plume opacity. The positioning of the camera is similar to the observer requirements of Method 9 (40 CFR 60, Appendix A), as are the reporting requirements. In April of 2011, MTG issued a broad approval for this method as an alternative to Method 9 when required under 40 CFR Parts 60, 61, and 63. In 2012, the broadly applicable alternative method approval was revised due to comments received. The approval contains several additional stipulations beyond those in ASTM D7520-09 and can be found at: <http://www.epa.gov/ttn/emc/approalt/ALT082.pdf>. Contact: Jason DeWees, MTG, [dewees.jason@epa.gov](mailto:dewees.jason@epa.gov).

## Electronic Reporting

- **New Source Performance Standards (NSPS) Reporting and Recordkeeping Requirement Revisions Rule** - Formerly known as the Compliance and Emissions Data Reporting Rule (CEDRR), this rule will revise most of the subparts under 40 CFR Part 60 to require the submittal of stack test reports, excess emission reports, summary reports, and notification of compliance reports to the EPA electronically. The acquisition of these reports electronically will aid in regulation development, improvement of emissions factors, and other air pollution control activities. We plan to propose this rule in September 2013. We published the advance notice of proposed rulemaking on October 14, 2009: 74 FR 52723. Contact: Tom Driscoll, MPG, [driscoll.tom@epa.gov](mailto:driscoll.tom@epa.gov), 919-541-5135.
- **Implementation of Electronic Reporting** – Ahead of proposing the NSPS Reporting and Recordkeeping Requirement Revisions Rule, we are incorporating electronic reporting into individual rules as they are proposed and promulgated. We included requirements to use the Electronic Reporting Tool (ERT) in rules for:
  - Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks
  - Coal Preparation and Processing Plants
  - Commercial/Industrial Solid Waste Incinerators
  - Gold Mine Ore Processing and Production
  - Industrial, Commercial, and Institutional Boilers and Steam Generating Units
  - Marine Tank Vessel Loading Operations
  - Nitric Acid Production
  - Oil and Natural Gas Sector
  - Pharmaceuticals Production
  - Group I Polymers and Resins
  - Polyvinyl Chloride and Copolymers Production
  - Portland Cement
  - Printing and Publishing Industry
  - Pulp and Paper Production
  - Sewage Sludge Incinerators
  - Steel Pickling -- HCl Process Facilities and Hydrochloric Acid Regeneration Plants
  - Secondary Lead Smelting
  - Coal- and Oil-fired Electric Utility Steam Generating Units, Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units aka Mercury and Air Toxics Standards (MATS)

We proposed requirements to use the ERT in rules for:

- Primary Aluminum Reduction
- Mineral Wool Production
- Wool Fiberglass Production
- Ferroalloys Production
- Group IV Polymers and Resins
- Pesticide Active Ingredient Production
- Polyether Polyols Production
- Secondary Aluminum Production
- The Uniform Standards

In addition to the requirement to report test data using the ERT, we promulgated other electronic reporting requirements in specific rules. The MATS rule includes requirements for reporting CEMS summary data, parametric monitoring summary data, notification of compliance status reports, excess emission reports, and compliance reports electronically to WebFIRE using the Compliance and Emissions Data Reporting Interface (CEDRI) in EPA's Central Data Exchange (CDX) <[www.epa.gov/cdx](http://www.epa.gov/cdx)>. The Industrial, Commercial, and Institutional Boilers and Process Heaters Rule (Boiler MACT) for major sources contains electronic reporting of compliance reports, which includes CEMS summary data, parametric monitoring

summary data, and malfunction summaries. Boiler MACT for area sources contains electronic reporting of notification of compliance status reports.

Contact: Tom Driscoll, MPG, [driscoll.tom@epa.gov](mailto:driscoll.tom@epa.gov), 919-541-5135.

- **CEDRI - CDX Data Flow** –Facilities submit stack test reports generated using the ERT to EPA’s CDX using CEDRI. CDX is an application used by EPA programs and various stakeholders to manage environmental data transmitted to us to meet reporting requirements. Submittal of files through CDX requires a Cross-Media Electronic Reporting Regulation (CROMERR) compliant signature. Authorized signature authorities for the facility may use the LexisNexis electronic identity validation service in lieu of a paper-based validation. Currently, facility contractors (or consultants) may submit files on behalf of an authorized signature authority for the facility. However, when we complete the next phase of CEDRI enhancements (namely, the acceptance of data other than stack tests), contractors will no longer be allowed to submit data on behalf of a facility. Contractors must proceed through the paper-based validation process prior to submitting files to CDX. Once you have passed the identity validation process and log in, you will be able to add CEDRI as a reporting portal in your account profile. Upon accessing CEDRI, you can upload your stack test report for submission. **You should not make any changes to the file name generated by the ERT software.** The submission files are stored as official copies of record in the CDX CROMERR archive and are available to submitters and authorized EPA reviewers immediately upon submission. In the near future interested parties will be able to complete a registration form to receive e-mail notifications when a facility located within their area of interest (a state, multiple states, or counties within a state) submits an ERT file to WebFIRE. We anticipate this will be available at the end of March 2013 at <http://www.epa.gov/ttn/chief/ert/index.html>.  
Contacts: Colin Boswell, [boswell.colin@epa.gov](mailto:boswell.colin@epa.gov), 919-541-2034 and Mike Ciolek, [ciolek.michael@epa.gov](mailto:ciolek.michael@epa.gov), 919-541-4921.
- **CEDRI Enhancements** – CEDRI is the portal in EPA’s CDX used for submission of stack testing data, as well as other data required by the NSPS Reporting and Recordkeeping Requirement Revisions Rule, the MATS Rule, and Boiler MACT. The public can view copies of submitted reports on the WebFIRE website (<http://cfpub.epa.gov/webfire/index.cfm?action=fire.searchERTSubmission>). As of March 12, 2013, 97 submissions are available in WebFIRE. We are currently developing subpart specific reporting forms for facilities affected by rules requiring data submission to the CDX. Once the system is complete, you will access CEDRI, select the applicable subpart for the report that you are submitting, select the report type being transmitted, enter the data into the form, and click on the submit button. In some cases, such as with stack test data, you will select the report type, enter basic facility information, and then upload the report in a specified file format (e.g. ERT file or PDF).  
Contact: Colin Boswell, [boswell.colin@epa.gov](mailto:boswell.colin@epa.gov), 919-541-2034.
- **ERT** – In early 2006, we made available a Microsoft Access© desktop application, called the ERT ([http://www.epa.gov/ttn/chief/ert/ert\\_tool.html](http://www.epa.gov/ttn/chief/ert/ert_tool.html)), which is an electronic alternative to paper reports for source emission tests. The goals and benefits of the ERT include:
  - Reduced time and resources to transcribe data from paper to electronic format
  - Consistent reporting from all sources
  - Broader and more efficient sharing among EPA, State/Local, and Tribal agencies
  - Automatic internal QA checks
  - Increased compatibility with source testers and laboratories’ electronic databases

We posted Version 4 of the ERT online for use on October 26, 2011. We continually review comments we receive on the ERT and update the ERT to address these comments. We most recently updated Version 4 on September 7, 2012. A complete list of updates to the ERT can be found at <http://www.epa.gov/ttn/chief/ert/updatehistory.pdf>. Some of the major updates this past year include:

- Updating the Example ERT Project Data Set and Spreadsheet, the User’s Guide, the ERT data entry template, and the WebFIRE template
- File Creation Improvements:

- Adding a check for latest ERT version
  - Allowing the creation of XML files without process data
  - Updating and saving submittal history in the submission zip file
  - Using “Save As” to create .acddb instead of .mdb files
  - Fixing CDX link
- Calculation Improvements:
  - Correcting isokinetic method issue for 20.9% O<sub>2</sub> or zero CO<sub>2</sub>
  - Changing calculations for Vmstd and Vwstd
  - Changing Pi to 5 decimal places
  - Formatting DeltaP to show 5 decimal places on screen
  - Updating RATA calculations
- Method Corrections:
  - Adding the ability to exclude up to three runs in RATA reports
  - Requiring nine runs to run relative accuracy report
  - Removing drift correction for Method 25A
  - Changing ppm to percent in the PS3 RATA screens and reports
  - Adding target parameters for Method 201A and Method 201A/202
- Test Report Improvements:
  - Requiring process data to be linked with test runs
  - Increasing the number of runs that can be imported from the template
  - Updating the emissions report to show process based emissions
  - Fixing process screen to save data on exit
  - Changing XML Export to show lab BDL,DLL, Non BDL comments
  - Fixing test report review questions 16 and 19
  - Allowing comment field in Test Report Review Report to grow

To download the ERT, access the user’s manual, or learn about training opportunities, please visit <http://www.epa.gov/ttn/chief/ert/index.html>.

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- **Emissions Factors Program Improvement Project** - We continue to implement our multi-part process to improve the air pollutant emissions factors (EF) program and to make the program self-sustaining. We posted the draft recommended procedures for development of emission factors for comment on December 17, 2010. The comment period ended on March 17, 2011, and we have spent time addressing issues within the document. A draft final of the document will be available April 2013. The draft final will supersede the previous guidance for emissions factor development (*Procedures for Preparing Emission Factor Documents* (EPA-454/R-95-015, November 1997)). The document presents an introduction to emissions factors and provides the historical background for how and why we have developed recommended emissions factors for stationary emissions units or processes. It describes the new approach and procedures that we will follow when developing new or revising existing emissions factors and the procedures, data evaluation criteria, associated tools, and data management systems that we recommend for developing air pollutant emissions factors for stationary emissions units or processes. The document also provides an overview of our interactive emissions factor database, WebFIRE (<http://cfpub.epa.gov/webfire>), and a discussion of the role the ERT plays in submitting emissions test data to us. We will begin reprogramming WebFIRE to match the processes described in the document once the draft final is available.  
Contact: Michael Ciolek, MPG, [ciolek.michael@epa.gov](mailto:ciolek.michael@epa.gov), 919-541-4921.
- **Source Classification Code Improvement Project** – We are in the process of updating and improving the Source Classification Code (SCC) system. SCCs are used for multiple applications such as NEI/EIS reporting, NESHAP risk modeling, EPA’s WebFire database, and the ERT. The objective of this project is to correct issues such as: duplicate SCCs, missing SCCs, and inconsistencies in the level of detail the SCCs provide. As of March 2013, we have revised SCCs for 11 sectors. A comprehensive list of SCCs can be found on the EPA website (<http://www.epa.gov/ttn/chief/eiinformation.html>).  
Contact: Rachel Agnew, [agnew.rachel@epa.gov](mailto:agnew.rachel@epa.gov), 919-541-0328.

## Improving Emissions Monitoring through Rulemaking

- **Information Collection Requests (ICRs)** – ICRs are a means by which we use our authority under section 114 of the Clean Air Act to collect source emissions and operational data in order to assist rule development. Since we lost a number of court cases due, in part, to a lack of data, we issued ICRs that included emissions testing this past year for aerospace, primary aluminum, integrated iron and steel, and ferroalloy facilities. These requests generally require the use of our ERT to submit data from source testing. In support of rule writers and their ICRs, MPG and MTG staff maintain websites for responses to FAQ, hold webinars, expedite alternative monitoring requests, respond to telephone and email questions, and update the ERT.  
Contact: Steffan Johnson, MPG, [johnson.steffan@epa.gov](mailto:johnson.steffan@epa.gov), 919-541-4790.
- **Improving Compliance Monitoring through Rulemaking** – We have recommitted to including monitoring to provide continuous compliance with emissions limitations and standards in all new and revised rules. MPG and MTG staff worked closely with SPPD rule writers to develop and update monitoring requirements in 8 proposed rules and 12 final rules over the past year. Where feasible and practical, we have promoted and will continue to apply continuous, direct emissions monitoring of the pollutant of concern using continuous emissions monitoring systems (CEMS). Where CEMS are not feasible or practical, we continue to implement a combination of periodic performance testing and parametric monitoring.  
Contact: Barrett Parker, MPG, [parker.barrett@epa.gov](mailto:parker.barrett@epa.gov), 919-541-5635.
- **Innovative Monitoring** – We continue our implementation of new monitoring technologies in current and future rulemakings. MPG and MTG are working together on studies on the use of optical gas imaging (OGI, also known as “the camera”) as a replacement for traditional Method 21 leak detection monitoring. We solicited comments on the use of OGI in the Oil and Gas Sector rules and proposed its use in the Uniform Standards. The studies will lead to the development of a protocol for OGI that will eventually be promulgated as an appendix to 40 CFR Part 60. We expect that the protocol will outline calibration techniques, procedures for conducting surveys, training requirements for camera operators, and techniques to verify that your equipment can see the most prevalent chemical in your process unit. Additionally, the Agency has developed methods to use passive sorbent tube fence-line monitoring as a technique for monitoring fugitive emission sources. We expect rules to be issued in the near future that will incorporate fence-line monitoring.  
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