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OAQPS Measurement and Monitoring Projects – 2014/2015

Environmental Protection Agency
Office of Air Quality Planning and Standards
Air Quality Assessment Division, Measurement Technology Group (MTG)
(<http://www.epa.gov/ttn/emc/>)

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** – We have been cataloging errors and other needed revisions to test methods, performance specifications, and associated regulations in 40 CFR parts 51, 60, 61, and 63 since the last Test Method Update Package was finalized on February 27, 2014 (79 FR11228). Many of these needed revisions have been brought to our attention by affected parties and end-users. The forthcoming proposed corrections and revisions consist primarily of technical errors in equations and diagrams; the addition of alternative equipment, procedures or methods the Agency has found acceptable to use; and typographical errors. At the moment we plan to propose updates to Methods 2, 2G, 3C, 4, 5, 5H, 5I, 6C, 7E, 10A, 10B, 15, 16C, 25C, 26, 26A, 29, 30A, 30B, 107, 202, and 320; Performance Specifications 1, 2, 4A, 11, 12A, 15, and 16; and Procedures 2 and 5 of Appendix F. Proposal scheduled for the summer of 2015. Contact: Lula Melton, MTG, melton.lula@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 Conditional Test Method (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 Relative Accuracy Test Audit (RATA), and provide a mathematical 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 2015. Contact: Jason DeWees, MTG, deweese.jason@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 (<http://www.epa.gov/ttn/emc/specs/prompspec11.html>) that includes (1) a spreadsheet and instructions for evaluating correlation test data to demonstrate compliance with PS-11, (2) information on evaluation of response correlation audit (RCA) data and evaluation of particulate matter stratification in ducts and stacks, (3) summary sheets on audit and routine system checks required by Procedure 2 for PM CEMS, and (4) question and answer documents. We have been considering a number of potential changes to be made to PS-11. Major revisions won't be made until we have the resources to adequately evaluate the potential changes needed. Contact: Kim Garnett, garnett.kim@epa.gov.

- **HCl CEMS Performance Specification 18 and Procedure 6** – We are preparing a flexible measurement based Performance Specification (PS 18) for HCl CEMs to support standards for the Mercury and Air Toxics (MATS) rule, and the Portland Cement MACT Standard. The PS 18 is a result of work with stakeholder(s) and vendors who provided information on current HCl CEMS 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. PS 18/ Procedure 6 were proposed on May 14, 2014. We are currently working on responding to comments and preparing the promulgation package. We hope to promulgate in early 2015. Contacts: Candace Sorrell, MTG, sorrell.candace@epa.gov, and Ray Merrill, MTG, merrill.raymond@epa.gov.

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** - On May 16, 2014, EPA published the final version of Procedure 3 (79 FR 28439). With this action, EPA establishes the quality assurance and quality control (QA/QC) procedures for continuous opacity monitoring systems (COMS). The final rule can be found at [http://www.epa.gov/ttn.emc.perfspec/comspro3.pdf](http://www.epa.gov/ttn/emc/perfspec/comspro3.pdf). Contact: Lula Melton, MTG, melton.lula@epa.gov, 919-541-2910 and Solomon Ricks, AAMG, ricks.solomon@epa.gov, 919-541-5242.

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

- **Method 301 Revisions** – Method 301 describes the procedures to conduct field validation of pollutant measurement methods from various waste media. In 2015, EPA intends to propose revisions to Method 301. Method 301 was originally published on December 29, 1992 [57 FR 61970] as a field validation protocol method. On March 16, 1994, Method 301 was brought into 40 CFR Part 63.7 [59 FR 12430] to validate alternative test method requests. To date, subsequent revisions of Method 301 have not addressed distinguishing between requirements for source specific applications of the method versus a single validation for multiple sources. The proposed revisions are intended to clarify when sections of the method are required depending on application of the method. Additional technical corrections will also be included in the proposal. Contact: Kristen Benedict, MTG, benedict.kristen@epa.gov.
- **Proposed 325A and 325B for Passive Fenceline Monitoring for Fugitive and Area Sources** - We have proposed two methods for use in assessing fugitive/area source emissions. These methods rely on sorbent tubes coupled with thermal desorption and gas chromatographic (GC)-based analysis. The methods address field placement (M-325A) of sorbent tubes that passively accumulate volatile organic compound (VOC) from air at or near area of fugitive emission sources (M-325A) and gas chromatographic analysis of the tubes (M-325B). Method 325A allows sampling site placement using equal linear distance between samplers or equal degrees of separation around the geometric center of a facility. We have evaluated the performance of the methods in laboratory and field comparisons using duplicate samples and passivated steel canisters for comparison. Evaluation tests include the effects of temperature, humidity, variable concentration and storage time. 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 volatile organic compounds (VOC) from area or fugitive emission sources. 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 VOCs around fugitive and area

emission sources. Method 325A and B were proposed with the Petroleum Refinery Sector Risk and Technology Review and New Source Performance Standards on June 30th, 2014 (79 FR 36879). We anticipate those methods being finalized sometime in 2015 with the Refinery RTR/NSPS Rulemaking. Contacts: Ray Merrill, MTG, merrill.raymond@epa.gov and Jason DeWees, deweese.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 two methods are now posted as part of the Final Rule: Revisions to Test Methods and Testing Regulations and can be found at <http://www.epa.gov/ttn/emc/news.html>. We have completed the first phase of a new project to evaluate and propose minor changes to Methods 201A and 202. In 2014, we conducted stakeholder meetings to provide us with feedback and information on the upcoming best practices document. We plan to post the draft best practices for Method 202 on measuring low concentration condensable particulate using Method 202 on the EMC website. Contacts: Ray Merrill, MTG, merrill.raymond@epa.gov or Jason DeWees, MTG, deweese.jason@epa.gov.

Source Category Approved Alternative Test Methods

These alternative method approvals, published on the EPA/EMC website at www.epa.gov/ttn/emc/tmethods.html, are broadly 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 (the 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 all 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 through 2014 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), February 15, 2012 (77 FR 8865), February 15, 2013 (78 FR 11174) and March 12, 2014 (79 FR 14033). We are in the process of developing the Federal Register notice for broadly applicable approval decisions made in 2014. Contact: Lula Melton, MTG, melton.lula@epa.gov, Jason DeWees, MTG, deweese.jason@epa.gov, and Robin Segall, MTG, segall.robin@epa.gov.

Other Test Methods

These methods, published on the EPA/EMC website at www.epa.gov/ttn/emc/tmethods.html, are test 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 40 CFR 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.

- **OTM 33: Geospatial Measurement of Air Pollution, Remote Emissions Quantification** - This test method relates to the general practice of using instrumented, ground-based vehicles to acquire information on air pollutant sources located in proximity to the driving route. Through specific sub-methods of OTM 33, source emissions assessments ranging from near-field inspection of small fugitive releases to whole facility mass emission rate measurements can be executed. Geospatial measurement of air pollution (GMAP) is a general term referring to the use of fastresponse instruments and precise global positioning systems (GPS) in mobile formats to spatiotemporally resolve air pollution patterns in a variety of use scenarios. General “mobile measurement” or GMAP applications can utilize many different instrumentation and mobility schemes to investigate numerous air quality questions on a range of spatial scales.
- **OTM 33A: Geospatial Measurement of Air Pollution, Remote Emissions Quantification, Direct Assessment** - This test method relates to use of instrumented, ground-based vehicles to acquire information on air pollutant sources located near the driving route and to estimate emissions in using a “direct assessment” approach (GMAP-REQ-DA). This method is used for one or more of the following three source assessment modes(SAMs): (1) concentration mapping (CM) used to find the location of unknown sources and/or to assess the relative contributions of source emissions to local air shed concentrations, (2) source characterization (SC) used to improve understanding of known or discovered source emissions through direct GMAP observation or through GMAP-facilitated acquisition of secondary measures (e.g. whole air canister grab samples), (3) emissions quantification (EQ) used to measure(or estimate) source emission strength. OTM 33A is applicable to characterization of non-extended (small in spatial extent) sources located in close proximity (generally between 20 m and 200 m) of the driving route.
- **OTM – 34: Method to Quantify Road Dust Particulate Matter Emissions (PM10 and/or PM2.5) from Vehicular Travel on Paved and Unpaved Roads** - This test method is designed to quantify road dust particulate matter (PM) emissions from vehicles traveling on paved and unpaved roads. The method relies on the measurement of the increase in PM concentrations over ambient background levels at one or more locations that are directly influenced by road dust that is emitted from the interaction of vehicle tires with the road surface.
- **OTM - 35: Measurement of Particulate Matter and Other Heavy Metal Emissions from Electric Arc Welding Processes** - This method was developed to quantify emissions of particulate matter (PM) and heavy metals from electric arc welding processes in order to create emissions factors. Welding fumes from different process/electrode combinations are captured inside a conical weld fume chamber and collected on an appropriate analytical fiber filter installed at the exit to this chamber. The filters are submitted to a laboratory for analysis of Cr(VI), total Cr, Mn, Pb, Ni and mass of total fume.

Tools for Improved Monitoring and Testing

- **Technical Foundation for Potential Future Optical Gas Imaging (OGI) Protocol**– MTG is conducting studies 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, effects of wind speed, relative humidity, and gas composition, and concentration-depth of the gas versus the performance of OGI instruments. Contacts: Jason DeWees, deweese.jason@epa.gov, Robin Segall, segall.robin@epa.gov, Gerri Garwood, garwood.gerri@epa.gov.

- **PM 2.5 Method Development for Wet Stacks** – There are two different projects going on at the moment, both of which are attempting to develop a test method that will perform under wet stack conditions. One project is attempting to develop an instrumental method and the other is using a sampling train based on Method 201A. The development of these methods and technology is important for the state implementation plans (SIP) PM fine implementation program and for emission factor development. The instrumental method 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. A 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 inertial droplet separator (IDS) and then performed monodisperse testing on the resulting IDS at the University of Minnesota. These results were promising; as resources permit, we plan to continue with more modeling and some possible field work in the coming year. The manual method is being funded by API and NCASI and we are providing input as they request it. Contact: Kim Garnett, garnett.kim@epa.gov and Jason DeWees, deweese.jason@epa.gov.
- **Upstream Oil and Gas Emissions Measurement** – Volatile organic compound (VOC), hazardous air pollutant (HAP) and greenhouse gas (GHG) emissions from upstream oil and gas production are currently of significant interest due to ozone NAAQS exceedances 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 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 have posted draft OTM 33 and 33A to the EMC website at <http://www.epa.gov/ttn/emc/prelim.html>. In addition to the methods, we have also posted supplemental information such as schematics, control software, and analysis SOPs and algorithms. Contacts: Jason DeWees, deweese.jason@epa.gov, Robin Segall, segall.robin@epa.gov, and Eben Thoma, ORD NRMRL, 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 has 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 2015. Contacts: Jason DeWees, dewees.jason@epa.gov, Eben Thoma, ORD NRMRL, thoma.eben@epa.gov, and Robin Segall, segall.robin@epa.gov.

- **Handbook for Measurement of Greenhouse Gases** – Last year we completed a first draft of a Handbook which describes the methodologies and technologies used to measure emissions of the following greenhouse gases (GHGs) from point and non-point emissions sources: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), fluorocarbons (FC), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃). This handbook is intended to be a resource for regulatory agencies, industrial entities, and interested parties that are involved in GHG measurements. When complete this handbook will be posted on the EMC website. At this time the handbook is under EPA review. It is expected to be finalized sometime in 2015. Contact: Dennis Mikel, mikel.dennisk@epa.gov.
- **Nanoparticle/Ultrafine Particles (UFP) Handbook** – MTG, in conjunction with EPA's Office of Radiation and Indoor Air (ORIA) has created a draft Handbook that describes current capabilities for measuring or sensing Nanoparticles (NP), nanomaterials (NM), and gas sensors. This Handbook is an exercise to raise awareness and build a knowledge base regarding nanoscale sensing technologies, especially those emerging nano-enabled NP and gas sensors. It will serve as a resource for federal, state and local agencies to aid in their appreciation and application of emerging technologies with the goal of furthering the technological outreach of the overall EPA's air program. When complete this handbook will be posted on the EMC website. It is expected to be available in July 2015. Contact: Dennis Mikel, mikel.dennisk@epa.gov.
- **Stationary Source Audit Program (SSAP) and EMC QA Conference Call** – We 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. A list of accredited audit samples providers and a list of methods for which audit samples are available is available on the TNI website at 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 at <http://www.epa.gov/ttn/emc/email.html#qaqc> 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 1:30-3:00 pm (EST) to discuss auditing and other emission testing issues. Since the EPA audit program no longer exists, 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.

- **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, wood heater (cordwood), and pellet stoves; (2) an opacity measurement method based on digital camera technology which has now been published; and (3) a bag leak detector protocol for application to cement plants. We continue to follow workgroup activities to develop standards for SO₃ measurement as well as passive flare efficiency measurements. Contacts: Ray Merrill, MTG merrill.raymond@epa.gov, Mike Toney, MTG, tony.mike@epa.gov, and Jason DeWees, MTG, dewees.jason@epa.gov.

Electronic Reporting

- **Electronic Reporting and Recordkeeping Requirements for New Source Performance Standards (NSPS) Rule** - 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. This rule was proposed on March 20, 2015 and is currently open for public comment.
Contact: Gerri Garwood, MPG, garwood.gerri@epa.gov, 919-541-2406.
- **Implementation of Electronic Reporting** –We have already incorporated electronic reporting into rules for 26 sectors. A complete list of these rules can be found at: http://www.epa.gov/ttn/chief/ert/ert_rules.html.
- Rules with upcoming compliance dates which require the use of the ERT include:
 - Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks
 - Coal Preparation and Processing Plants
 - Commercial/Industrial Solid Waste Incinerators
 - 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)
 - 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
 - RICE source categories
 - Sewage Sludge Incinerators
 - Steel Pickling -- HCl Process Facilities and Hydrochloric Acid Regeneration Plants
 - Secondary Lead Smelting

We have proposed requirements to use the ERT in rules for:

- Primary Aluminum Reduction
- Brick and Structural Clay Ceramics
- Mineral Wool Production
- Wool Fiberglass Production
- Ferroalloys Production
- Group IV Polymers and Resins
- Pesticide Active Ingredient Production
- Phosphate and Phosphoric Acid Production
- Polyether Polyols Production
- Secondary Aluminum Production

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>. 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: Theresa Lowe, MPG, lowe.theresa@epa.gov, 919-541-2406.

CEDRI Overview

EPA regulations codified in 40 CFR Part 60 and 63 require affected sources to perform emissions source tests, conduct continuous emissions monitoring, and submit compliance and emissions reports. EPA is promulgating "E-Reporting" rules to require affected sources to electronically submit source test results, emissions monitoring data, compliance reports, and emissions reports to EPA. As a result the EPA has developed the Compliance and Emissions Data Reporting Interface (CEDRI) which is located on EPA's Central Data Exchange (CDX). The CDX Web is the application used by EPA programs and various stakeholders to manage environmental data transmitted to EPA in order to meet EPA's reporting requirements.

The CEDRI program service supports the submittal of three types of reporting:

- Performance Test Reports – Data collected during performance tests are entered into the Electronic Reporting Tool (ERT), built in Microsoft Access, to generate files containing emissions source test data. Facilities upload these files to CDX using CEDRI.
- Notification Reports - Notification Reports are PDF reports uploaded to CDX using CEDRI.
- Air Emissions Reports - Air Emissions Reports are completed through fillable forms launched directly from the CEDRI program service.

CEDRI supports submission of multiple reports at one time. CEDRI aggregates the uploaded files and completed forms into a single package for submission. The source then certifies and signs the package using the CDX Cross-Media Electronic Reporting Regulation (CROMERR) service.

CEDRI Roles

CEDRI allows users to set up their profiles with different roles. This allows for multiple people at a source to work on a given report however only allows certain users show have been verified to submit and certify. The distinctions between the two different roles that a user can request are as follows:

1. **Preparer:** The Preparer is the person responsible for the preparation of reports for signature and subsequent submission by an authorized representative of the facility. Contractors are permitted to register as a Preparer and may assemble submission packages, such as files generated by the ERT, for the Certifier's approval and signature. A Preparer may not sign and submit a submission package. The Preparer may only access packages which they have prepared.
2. **Certifier:** The Certifier is the duly authorized representative of the source or more commonly referred to as the "owner" or "operator" of the facility. The Certifier is authorized to modify the package a Preparer has assembled, and sign and submit the package to CDX. The Certifier may perform all the tasks the Preparer may perform, but also has submission signing authority. Contractors are prohibited from registering as a Certifier.

The submission files are stored in the CDX CROMERR archive and are available to submitters and authorized EPA, regional, state, local, and tribal reviewers immediately upon submission. A copy of the submission file is also subsequently sent to WebFIRE where the report file is available for public access.

New CEDRI Enhancements as of February 2015

- Link with Facility Registry System (FRS) which is EPA's centralized data source
 - Pre-populate already reported data to EPA and to update information
 - Efficiently update information the EPA associates with facilities
 - Can generate a new FRS ID if needed
- Bulk XML upload of data
 - Users can submit data using a bulk XML data upload and can optimize current systems to output in consistent formats
- Dynamic report creation
 - Streamlined system for creating PDF report of information entered into CEDRI smart forms
- Responsive design (mobile device access)
 - CEDRI can now be accessed by and viewed on devices while in the field
- Enhanced State reviewer tool
 - Includes notification customization based on location and type of source.

Future Enhancements

- Link with the Emissions Inventory System Summer 2015
 - Goal is to pre-populate and update sub-facility information already reported to EPA efficiently and timely

Additional information can be found at the CEDRI website at <http://www.epa.gov/ttn/chief/cedri/index.html> and any questions can be sent to CEDRI@epa.gov
 Contacts: Colin Boswell, boswell.colin@epa.gov, 919-541-2034 and Mike Ciolek, ciolek.michael@epa.gov, 919-541-4921.

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), 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
- Consistent internal QA checks
- Increased compatibility with source testers and laboratories' electronic databases

We posted Version 5 of the ERT online for use on August 1, 2014. We continually review comments we receive on the ERT and update the ERT to address these comments. We most recently updated Version 5 on January 16, 2015 and plan to begin work to incorporate EPA Method 18 this April. 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 that were developed this past year include:

- Added Method 30B and ability to process paired data. Added presentation of QA/QC specifications, acceptance criteria and summary of calculated demonstrated performance.
- Provide a Completeness Check for source test contractor and facility representative (ERT reports "Yes/No" dependent on presence of documentation).
- Provide a check list for Regulatory Agency Assessment where assessment of more critical documentation can be documented (Reviewer selection and Comments).
- Prevents creation of CEDRI submission file with incomplete information. Shows list of missing data and provides links for completion.
- Revised Main Menu Selection items to accommodate test production, review and regulatory evaluations.

- Added Method 306 Chromium, Hexavalent Chromium.
- Added CARB Methods 468, 469.
- Attachments used for Completeness Checks made permanent, but allow for supplementary attachments with different descriptions.
- Provide list of States/territories and counties to provide consistency.
- ERT will now show message if it can't get the ERT version from the web, instead of generating an error and stopping.
- Changed XML export to provide facility data for notification of State/local agencies and for searching for test reports on WebFIRE.
- New search capability: <http://webbook.nist.gov/chemistry/name-ser.html> to allow user to search CAS numbers in custom setup.
- Now limits the Industry NAICS code to accept only a 6 digit number. While this is NOT a required field, if anything is entered, it must be six numerical digits.
- Revised the Latitude and Longitude fields to accept only degrees and decimal degrees with a requirement for 5 or 6 digits after the decimal.
- Implemented the ability to rename runs, rename run dates, and delete runs.
- Corrected issue with custom target compound by requiring user to enter CAS number
- Recalculated and formatted data to allow presentation of all runs when All Runs button selected.
- Changed print method to instruct user to "Press Ctrl+P to Print" to all reports to address issue that right click did not work when using runtime version of Access.
- Added New Run button on ITM Run Results tab.
- Corrected the error in calculation with ppm.
- Corrected the error in calculation lb/Tbtu
- Implemented procedures to submit properly formatted files to CDX system.

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>.
 Contact: Stef Johnson MPG, johnson.steffan@epa.gov, 919-541-4790.

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 Final Guidance on the Recommended Procedures for Development of Emissions Factors and Use of the WebFIRE Emissions Factor Database (<http://www.epa.gov/ttn/chief/efpac/procedures/index.html>) August 2013.

This report presents an introduction to emissions factors and provides the historical background for how and why the EPA has developed recommended emissions factors for stationary emissions units or processes. It also describes the approach and new procedures that EPA will follow when developing new or revising existing recommended emissions factors. 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.

This document supersedes the previous EPA guidance document for emissions factor development (Procedures for Preparing Emission Factor Documents (EPA-454/R-95-015, November 1997)) and the Draft Procedures posted

December 2010. It was prepared based on public comments received on the December 2010 draft, and, as such, we are not formally soliciting public comments on this final draft version. We're in the process of incorporating existing AP-42 supporting documentation into our WebFIRE database such that test reports that are electronically submitted to EPA will be easily and readily evaluated to determine if new or revised emissions factors should be proposed. We expect this effort to incorporate over 100,000 records into WebFIRE will be completed by fall 2015. At that time, procedures that allow users to develop their own emissions factors as well as providing EPA the ability to determine if new or revised factors should be proposed will be fully functional.

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 PVC 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: Stef Johnson, MPG, johnson.steffan@epa.gov, 919-541-4790.

Source Classification Code (SCC) Revisions Project – We are in the process of updating and improving the point source SCCs. EPA uses SCCs to classify different types of anthropogenic emission activities. Each SCC represents a unique process or function that emits an air pollutant. SCCs are used for multiple applications such as NEI/EIS reporting, risk and technology review modeling, EPA's WebFIRE database, and the ERT. The SCCs are also used by many regional, state, local, and tribal agency emissions data systems. The objective of this project is to correct issues such as: remove outdated SCCs, duplicate SCCs, missing SCCs, and inconsistencies in the level of detail the SCCs provide. A comprehensive list of SCCs can be found on the EPA website (<http://www.epa.gov/ttn/chief/eiinformation.html>). Contact: Ketan Patel, patel.ketan@epa.gov, 919-541-9736.

Innovative Monitoring – We continue our implementation of new monitoring technologies in current and future rulemakings. MPG and MTG are currently 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. The studies will lead to the development of a protocol for OGI that will 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. We solicited comments on the use of OGI in the Oil and Gas Sector rules and continue to contemplate its use for this sector. We also proposed the use of OGI in the Petroleum Refining rule. Additionally, the Agency has developed methods to use passive sorbent tube fenceline monitoring as a technique for monitoring fugitive emission sources. Methods 325A and 325B were proposed as part of the Petroleum Refining rule, which requires the use of fenceline monitoring for benzene. Contact: Gerri Garwood, MPG, garwood.gerri@epa.gov, 919-541-2406.