



OAQPS Measurement and Monitoring Projects – 2023/2024

Environmental Protection Agency (EPA)
Office of Air Quality Planning and Standards (OAQPS)
Air Quality Assessment Division, Measurement Technology Group (MTG)
Sector Policies and Programs Division, Measurement Policy Group (MPG)
(<http://www.epa.gov/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.

MTG Staffing Updates

Newly Hired

Donna Nolen-Weathington (Spring 2023), Dr. Hannah Halliday (Summer 2023), Dr. Carlos J. Valle Díaz (Fall 2023).

Test Methods

Test Methods Update Rulemakings

We continually collect and catalogue errors and other necessary revisions to our test methods, performance specifications, and associated regulations in 40 CFR parts 51, 60, 61, and 63. Many of the revisions are brought to our attention by affected parties and end users. Our most recent test methods update rule was promulgated on March 29, 2023 (88 FR 18396). The rule includes corrections to typographical and technical errors, updates to outdated procedures, and revisions to add clarity and consistency with other monitoring requirements. The rule addresses Methods 1, 4, 7, 19, 25, 25C, 26, 315, and 323; Performance Specifications 1, 2, 4B, 6, 12A and 16; and Procedures 1 and 5 of Appendix F.

Contact: Steffan Johnson, MTG, johnson.steffan@epa.gov.

Broadly Approved Alternative Test Methods

These alternative test method approvals, published on the EPA/EMC website at <https://www.epa.gov/emc/broadly-applicable-approved-alternative-test-methods>, are broadly applicable alternatives to the methods required under 40 CFR parts 59, 60, 61, 63, and 65 as set forth in the General Provisions and/or subparts therein. As such, they may be used by sources for determining compliance with the requirements of these parts as per the applicability provisions specified in the approval without further EPA approval; however, the approval letter or memo should be included in the test plan and test report and the responsible agency be notified if the facility no longer chooses to use the alternative. The Administrator's delegated authority (leader of the Measurement Technology Group) has approved these methods for the specified applications. These methods include quality control and quality assurance procedures that must be met.

- **Federal Register Notice for Broadly Applicable Alternative Test Method Approvals**

The first of these notices, published on January 30, 2007 (72 FR 4257), announced broadly applicable alternative test method approval decisions EPA made prior to 2007 to support New Source Performance Standards (NSPS) and National Emission Standards for Hazardous Air Pollutants (NESHAP). This notice describes the alternative test method approval process and underlying regulatory requirements as well as announces the publication of the broad approvals on the EMC website and in the *Federal Register*. These broadly applicable alternative test method approvals provide options and flexibility for the regulated community to reduce the burden on source owners/operators in making site-specific alternative test method requests in addition to the permitting authorities and the EPA Administrator in processing those requests. Announcements of the broadly applicable approval decisions are published in the *Federal Register* on an annual basis.

The most recent was published on January 19, 2024 (88 FR 3408) for broad approvals made in 2023 which are as follows:

- Alt-151: An alternative allowing the use of Method 3A in lieu of Method 3B for all units required the use Method 3B under 40 CFR parts 59, 60, 61, 63, and 65. This approval was made, in part, due to the current shortage of chemicals needed to conduct Method 3B.
- Alt-152: An alternative allowing the use of VR headset-based method for conducting Method 9 plume demonstrations and certification as an alternative to the procedures of section 3.2 of Method 9.
- Alt-153: An alternative allowing the use of the analysis procedures similar to those found in Method 3A, in lieu of an ORSAT, to analyze the bag sample(s) collected according to Method 3B as required under 40 CFR parts 59, 60, 61, 63, and 65.
- Alt-154: An alternative allowing the pre-test processing (taring) of filters in pairs as is currently allowed for filter gaskets in section 9.4.4 when conducting testing of wood heaters under 40 CFR part 60, Subpart AAA, Standards of Performance for New Residential Wood Heaters.
- Alt-155: An alternative allowing the use of low flow micromanometers when using ASTM E2515-11 to conduct testing under 40 CFR part 60, Subpart AAA, Standards of Performance for New Residential Wood Heaters, and 40 CFR part 60, Subpart QQQQ Standards of Performance for New Residential Hydronic Heaters and Forced-Air Furnaces.

Contact: Kim Garnett, MTG, garnett.kim@epa.gov.

Method 23 Revisions

We have completed and promulgated extensive revisions to Method 23 for measurement of dioxins and furans. These revisions are designed to make the analytical portion of Method 23 more performance based. This additional flexibility in performing the method allows advances in

current analytical technology without the need for changes to the method. Revisions to Method 23 also include the addition of Polychlorinated Biphenyls (PCB) and polycyclic aromatic hydrocarbon (PAH) target compounds. MTG responded to public comments on proposed revisions to Method 23 and posted these responses in the associated docket. The revisions were published in the Federal Register on March 20, 2023. Revisions are posted on our website: <https://www.epa.gov/emc/emc-recent-additions, and a single column version is available at: https://www.epa.gov/system/files/documents/2023-03/2023%20Method%2023%20Revision%20Final.pdf>

Contact: Ray Merrill, MTG, merrill.raymond@epa.gov and Ned Shappley, MTG, shappley.ned@epa.gov.

Performance Specification 19 (PS-19)

EPA proposed Performance Specification 19 as part of the proposed revisions to the Commercial Sterilizer NESHAP (40 CFR Part 63, Subpart O) on April 11, 2023 (88 FR 22790). This new performance specification to be applied to Ethylene Oxide (EtO) Continuous Emission Monitoring Systems (CEMS) as part of the Commercial Sterilizer NESHAP technology review. PS-19 builds off our performance-based framework developed for HCl CEMS (PS-18), while laying groundwork for sub-ppmv application of CEMS. The Performance Specification also includes an appendix (Appendix B) that includes requirements for the preparation of gaseous cylinder calibration standards of ethylene oxide, similar to the requirements in ALT-114. This final Performance Specification is expected to be finalized with the Commercial Sterilizer NESHAP in the Federal Register in spring 2024.

Contact: Ned Shappley, MTG, shappley.ned@epa.gov; Paul Van Rooy, MTG, vanrooy.paul@epa.gov.

Proposed Method 327

EPA proposed Method 327 as part of the proposed revisions to the Hazardous Organic NESHAP (HON) (40 CFR Part 63, Subpart H) on April 25, 2023 (88 FR 25080). This new method is for determining airborne concentrations of selected speciated volatile organic hazardous air pollutants (oHAPs) in order to determine compliance with a fenceline emission standards as part of the future Hazardous Organic NESHAP (HON). The sampling and analytical approach included in this method is based on previously published EPA guidance in Compendium Method TO-15A, which describes the sampling and analytical procedures for measuring VOCs in ambient air and includes specific best practices to improve the precision and accuracy of pptv level concentrations. This method is expected to be finalized with the HON in the Federal Register in early spring 2024.

Contact: David Berkowitz, berkowitz.david@epa.gov; Ned Shappley, MTG, shappley.ned@epa.gov.

Method 202 Revisions

On September 8, 2017 (82 FR 42508) EPA published proposed revisions to Method 202 with the intent to codify procedures from the Method 202 Best Practices Handbook into the revised method. EPA has chosen not to finalize these revisions at this time and instead has focused

efforts on collecting additional information on train performance. EPA may re-propose Method 202 to incorporate best practices and updated information at a later date.

Contacts: Paul Van Rooy, vanrooy.paul@epa.gov; Dave Nash, MTG, nash.dave@epa.gov; Ned Shappley, MTG, shappley.ned@epa.gov.

Methods 320 Revisions

EPA intends to publish proposed revision to Method 320 in spring of 2024. Method 320 is the standard method for operating Fourier Transform Infrared (FTIR) instruments for speciated measurements. More significant changes will be focused on issues of QA spiking and surrogacy.

Contacts: Dave Nash, MTG, nash.dave@epa.gov.

Method 325A/B Revisions

EPA intends to publish revision to Method 325 A/B in the fall of 2024. Method 325A/B are the methods for siting and collecting passive sorbent samples utilized in many fence-line monitoring programs. EPA is making these revisions to incorporate current laboratory best practices and to expand the list of potential analytes and sorbent materials that can be used. EPA is putting together stakeholder meetings in early 2024 to discuss potential revisions.

Contact: David Berkowitz, MTG, berkowitz.david@epa.gov and Ned Shappley, MTG, shappley.ned@epa.gov.

Projects

Condensable Particulate Method Comparison Project

In an effort to further understand condensable particulate matter (CPM) formation, EPA has been conducting method comparison and kinetics research. Comparison of an impinger-based method (Method 202) and a dilution-based method (OTM-037) will inform the potential for bias due to the principle behind each method. In the past two years, testing of the Method 202 train has been conducted on a syngas bench scale setup. The OTM-37 will be run on this same setup with a similar set of matrix conditions this year. Additionally, CFD modeling has been conducted on the OTM-37 train to guide experimental matrices. Getting back to testing on the Multi-Pollutant Control Research Facility (MPCRF) here in RTP will continue to be a goal, as well as additional flow tube/mechanism work.

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Video Imaging Spectro-Radiometry (VISR) and Optical Gas Imaging (OGI) Project

EPA is seeking a cost-effective, more technologically advanced and real-time or near real-time approach to monitoring flare efficiency of NSPS or NESHAP regulated flares at industrial sites. Video Imaging Spectro-Radiometry (VISR) is a remote measurement system that can determine

the combustion efficiency and heat release of a variety of flare types using optical techniques. The system has been evaluated in several blind studies for accuracy and used in multiple feasibility studies for short- and long-term use. MTG has been working to ensure the precision of the measurement is acceptable for compliance use. Initial precision test was completed in 2018 at the John Zink flare test facility. Plans are to have a report drafted to details those and subsequent findings, as well as plan for additional testing in FY '24.

Contact: David Nash, MTG, nash.dave@epa.gov.

RICE Engine Emissions Measurement Workgroup

In an effort to determine if it is possible to establish a list of individual compounds that would represent total hydrocarbon emissions from RICE engines, a workgroup has been established. To date, there have been several stakeholder calls discussing speciating measurements, specifically Fourier Transform Infrared Spectroscopy (FTIR) and if it is possible to use these approaches to determine total hydrocarbons from these engines. At this point, EPA needs any data testers can provide to make a scientifically based/informed decision. Ideally, the data would represent engines of different sizes and ages, operating under ideal and non-ideal conditions. Until sufficient data is received, stakeholder calls will remain on hold.

Contact: David Nash, MTG, nash.dave@epa.gov.

Integrated Path CEMS Project

EPA is continuing with the Electric Power Research Institute (EPRI) on how to incorporate Integrated Path CEMS (IP CEMS) into our performance specifications and QA procedures. Currently, Performance Specification 18 and Procedure 6 apply to the use of IP CEMS for HCl, but not other pollutants. As the first step of this project, we are working on an Other Test Method, or OTM, that would allow IP CEMS to be used for combustion turbines subject to 40 CFR 60, Subpart GG and KKKK and would include pollutants such as NO_x, SO₂, CO, CO₂ and moisture. We then hope to expand its use to other source categories and pollutants. IP CEMS technology has the potential for significant savings on O&M costs; it can measure a broad range of species; and it may eliminate sample transport issues associated with extractive monitoring systems. One challenge remains as they are not calibrated in the traditional manner, and this is one of the major hurdles we are working to address.

Contacts: **Kim Garnett**, MTG, garnett.kim@epa.gov; **Ray Merrill**, MTG, merrill.raymond@epa.gov; **Paul Van Rooy**, MTG, vanrooy.paul@epa.gov.

Developing Improved Cordwood Test Methods for Wood Heaters Project

MTG is currently conducting research and development work to develop new and more representative test methods for the wood heating sector (subpart AAA and subpart QQQQ), these test methods consist of two parts: the particulate matter (PM) measurement method (based on NESCAUM's TEOM SOP) and the fueling and operation protocol for the appliance (based on NESCAUM's Integrated Duty Cycle (IDC) protocol methods allowed for use in EPA research). EPA's contractor has completed the test method research work for cordwood heaters for the west coast and we are awaiting the test data from the east coast lab (supported by NESCAUM). At present, EPA's contractor is conducting research on IDC protocol method research on hydronic

heaters, and we are awaiting the complementary test data from the east coast lab (supported by NESCAUM). More data is forthcoming from precision testing other wood heating appliances including pellet heaters and forced air furnaces. The pellet heater IDC research work will be conducted by EPA's Office of Research and Development. EPA expects that by FY24 the research and development work will be completed for all the IDC protocol methods. We expect to start proposing the respective test methods soon after the dataset is complete. Data, details and documentation can be found in the docket for this project:

<https://www.regulations.gov/docket/EPA-HO-OAR-2016-0130>.

Contacts: Mike Toney, MTG, toney.mike@epa.gov; Steffan Johnson, MTG, johnson.steffan@epa.gov; Hannah Halliday, MTG, halliday.hannah@epa.gov.

Real Time Mass Spectrometry for Fenceline Applications

MTG is beginning the process of formalizing the methods around real time mass spectrometry instruments. The goal will be to provide resources and support to the states as they bring their new instruments online. We will also be exploring the development of a OTM for these methods.

Contacts: Hannah Halliday, MTG, halliday.hannah@epa.gov; Paul Van Rooy, MTG, vanrooy.paul@epa.gov.

PM 2.5 Method Development for Wet Stacks

EPA is continuing its work on developing one or more test methods for fine particulate that can be performed under wet stack conditions. Currently, one project uses a manual sampling train based on Method 201A, and the other uses a camera to photograph droplets to determine their size. The development of these methods is important for the state implementation plan (SIP) PM fine implementation program and for emission factor development.

- **In 2017, the University of Minnesota performed monodisperse testing on the pre-cutter nozzle and demonstrated that the current version of OTM-36 has a significant negative bias.** As a result, we removed OTM-36 from our website. We have recently received additional funding for the manual test method and are again working with a contractor and the University of Minnesota to develop a nozzle capable of collecting droplets at the appropriate cut size. This nozzle could then be used with the OTM-036 sampling train.
- EPA is currently beginning work to assessing the ability of current camera technology to measure water droplet size distribution. This project is currently assessing at the ability a commercially available camera developed primarily for use in the pharmaceutical industry - called a SOPAT. We have previously performed initial testing with the SOPAT on the wet-stack exhaust of a boiler at EPA's research facility in RTP with some success. We have recently received funding to purchase a SOPAT and hope to perform additional testing in the coming months. Through this work we hope to understand the potential precision of a possible method, to identify data quality indicators to be used in the future

refinement of this methodology and develop an SOP for using the camera as a measurement device.

Contacts: Kim Garnett, MTG, garnett.kim@epa.gov; David Nash, MTG, nash.dave@epa.gov; **Walter Lin, MTG, lin.walter@epa.gov**; **Paul Van Rooy, MTG, vanrooy.paul@epa.gov**; Carlos J. Valle Diaz, MTG, vallediaz.carlos@epa.gov.

Advanced Methane Detection Alternative Test Methods in Oil and Gas

MTG has developed a program separate from the standard alternative test method program for evaluating advanced methane detection techniques (e.g., aerial flyovers, fixed sensor systems) utilized in the oil and gas sector for compliance with fugitive emission work practice standards. With the recent advancement in methane detection systems being used voluntarily by industry, EPA has stood up this program as part of the finalized New Source Performance Standard for the oil and gas sector (NSPS OOOOb/c). As part of this rulemaking, EPA has defined the criteria for when these technologies can be used and what information they must provide to the EPA as part of the alternative test method application. EPA expects this approach to provide more flexibility over previous measurement approaches applied to work practices.

Contacts: Ned Shappley, MTG, shappley.ned@epa.gov; Gerri Garwood, MPG, garwood.gerri@epa.gov; Hannah Halliday, MTG, halliday.hannah@epa.gov; David Nash, MTG, nash.dave@epa.gov; Paul Van Rooy, MTG, vanrooy.paul@epa.gov.

Third-Party Certification for the Super Emitter Program

The Super Emitter Program was promulgated as part of EPA's recent New Source Performance Standard for the oil and gas sector (NSPS OOOOb/c). This program is designed to take in information on large methane releases from a third-party and then the EPA will notify owner or operators of when these large events occur so they can investigate the potential cause, and if necessary, repair. MTG is tasked with approving the remote sensing technologies used to identify these events through the Advance Methane Detection Program and with the certifying the third parties that can submit information to the EPA.

Contacts: Ned Shappley, MTG, shappley.ned@epa.gov; Gerri Garwood, MPG, garwood.gerri@epa.gov; Hannah Halliday, MTG, halliday.hannah@epa.gov; David Nash, MTG, nash.dave@epa.gov; Paul Van Rooy, MTG, vanrooy.paul@epa.gov.

OTMs – Other Test Methods

OTM-45: Measurement of Selected Per- and Polyfluorinated Alkyl Substances from Stationary Sources

This method describes the sampling and sample recovery procedures used to measure individual semivolatile PFAS from stationary source air emissions. OTM-45 incorporates by reference some of the specifications (e.g., equipment and supplies) and procedures (e.g., sampling and sample preparation) from other methods that are essential to conducting OTM-45. Sampling in this method is modeled after Method 23/SW-846 Method 0010. Sample preparation and Laboratory analysis uses liquid chromatography coupled with tandem mass spectrometry (LC-

MS/MS) multiple reaction monitoring (MRM) as described in EPA Method 533 and Method 537.1.

Contact: Ray Merrill, MTG, merrill.raymond@epa.gov; David Berkowitz, MTG, berkowitz.david@epa.gov.

OTM-48: Emission Factor Determination by the Carbon Balance Method

This method can be used to determine air emission factors for pollutants from combustion sources using the carbon balance method. Emission factors are defined as the ratio of a pollutant's mass to some quantifiable measure of the process such as mass of particulate matter per mass of fuel burned or mass of particulate matter per acre of forest burned. This method applies to all pollutants, gaseous and particulate. It is particularly applicable to open area combustion sources where the pollutant flux is difficult to measure in contrast to sampling in stacks or ducts where the gas flowrate can be measured.

Contact: David Nash, MTG, nash.dave@epa.gov.

OTM-49: Determination of Polychlorinated Dibenzo-*p*-Dioxins, Polychlorinated Dibenzofurans, Polychlorinated Biphenyls, and Polycyclic Aromatic Hydrocarbons from Stationary Sources by Gas Chromatography/Tandem Mass Spectrometry (GC-MS/MS)

This method parallels the most recent revisions to standard Method 23 with the substitution of tandem mass spectrometry as the instrumental method for analysis. This method applies to the measurement of polychlorinated dibenzo-*p*-dioxins and polychlorinated dibenzofurans (PCDD/PCDF), polychlorinated biphenyls (PCB), and/or polycyclic aromatic hydrocarbons (PAH) in emissions from stationary sources. The use of this method may be specified by the EPA, state, or local authorities through independent actions or stakeholders may apply to use this method as an alternative to Method 23 by supplying supporting information on demonstration of proficiency and comparability to Method 23.

Contact: Ray Merrill, MTG, merrill.raymond@epa.gov; Ned Shappley, MTG, shappley.ned@epa.gov.

OTM-50: Measurement of Selected Volatile Per- and Polyfluorinated Alkyl Substances from Stationary Sources – *in preparation*

This method involves collection of volatile fluorinated compounds (VFC) from stationary source emission vents or stacks into evacuated passivated silicon ceramic lined stainless-steel canisters. The method describes gas conditioning if necessary to manage moisture and acid gases. The method provides procedures for the preparation, blanking, evacuation, and shipping of passivated canisters prior to sample collection. Parallel carbon dioxide (CO₂) and source moisture concentration measurements are also required. VFC are identified and quantified in whole air samples from canisters by GC/MS. Additional volatile compounds present in canister samples that are not on the target list are reported with their best-available matches to mass spectral reference libraries. EPA anticipates posting OTM 50 on its EMC website in early 2024.

Contact: Ray Merrill, MTG, merrill.raymond@epa.gov; David Berkowitz, MTG, berkowitz.david@epa.gov.

OTM-51: Unmanned Aerial System (UAS) Application of Method 21 for Surface Emission Monitoring of Landfills

This method provides procedures for use of unmanned aerial systems (UAS) to perform surface emissions monitoring for municipal solid waste landfills. This alternative test method seeks to replicate, to the greatest extent possible, EPA Method 21, but automate Surface Emission Monitoring (SEM) by utilizing a methane detection payload on an unmanned aerial system (UAS) coupled with a ground level to UAS sampling system. The methane detector payload includes a hose and custom nozzle design that, when carried by the UAS, places the nozzle inlet within 5-10 cm of the ground. The UAS transmits the geolocated methane readings to the operator via a wireless communication system. The UAS is used to sample large areas for increased meter readings.

Contact: Kim Garnett, MTG, garnett.kim@epa.gov.

OTM-52: Determination of Combustion Efficiency from Enclosed Combustors Located at Oil and Gas Production Facilities

Other Test Method (OTM)-52 is a test method for measuring combustion efficiency from enclosed combustion devices located at oil and gas facilities. This method is intended for the measurement of combustion efficiency using CO₂, CO, HCC and O₂ in enclosed combustors located at oil and gas production facilities for the purposes of conducting performance tests to demonstrate compliance with applicable performance standards. Quality assurance and quality control (QA/QC) requirements are included to assure that the tester, collect data of known and acceptable quality for each testing program. Use of OTM-52 requires a thorough knowledge of the additional standard test methods 3A, 7E, 10, 25A, 25B, and 320 which are found in 40 CFR Part 60, Appendices A-2, A-4 and A-7. The use of this method may be specified by the EPA, state, or local authorities through independent actions or stakeholders may apply to use this method as an alternative for enclosed combustion device efficiency tests.

Contact: Steffan Johnson, MTG, johnson.steffan@epa.gov.

Electronic Reporting

Implementation of Electronic Reporting

We continue to incorporate electronic reporting into subparts in 40 CFR parts 52, 60, 62, and 63. A complete list of these rules can be found on EPA's Compliance and Emissions Data Reporting Interface (CEDRI) website at <https://www.epa.gov/electronic-reporting-air-emissions/cedri-list-rules>. The types of notifications and reports required to be reported electronically varies by subpart, but generally include stack test reports, CEMS performance evaluation reports, periodic reports (excess emission/deviation type reports), fenceline monitoring reports, notification of compliance status reports, and flare management plans. The CEDRI website also specifies when the function to report for each report type and subpart becomes available in CEDRI, specifies the format of reporting, and contains the latest spreadsheet templates for reports that must be reported using an EPA required template. Stack test reports and CEMS performance evaluation reports that are required to be submitted electronically must be in the format generated by EPA's Electronic Reporting Tool (ERT).

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Since our last update, EPA has finalized new or updated requirements to electronically submit stack test reports and/or other specified reports into rules for the following sectors:

- Automobile and Light-Duty Truck Surface Coating Operations (40 CFR part 60, subparts MM and MMa);
- Gasoline Distribution (40 CFR part 60, subpart XX; 40 CFR part 63, subparts R and BBBB);
- Integrated Iron and Steel Manufacturing (40 CFR part 63, subpart FFFFF);
- Oil and Gas Production, Transmission, and Storage (40 CFR part 60, subparts OOOOb and OOOOc);
- Secondary Lead Smelters (40 CFR part 60, subparts L and La);
- Sterilization Facilities (40 CFR part 63, subpart O); and
- Steel Plants: Electric Arc Furnaces and Argon-Oxygen Decarburization Vessels (40 CFR part 60, subparts AA, AAa, and AAa).

EPA has finalized reporting templates for the following periodic reports:

- Automobile and Light-Duty Truck Surface Coating (40 CFR part 60, subparts MM and MMa);
- Flexible Polyurethane Foam Fabrication Operations (40 CFR part 63, subpart MMMM); and
- Hydrochloric Acid Production (40 CFR part 63, subpart NNNN).

EPA has also updated reporting templates for the following periodic reports:

- Automobile and Light-Duty Truck Surface Coating Operations Semiannual Report (40 CFR part 63, subpart IIII);
- Plywood and Composite Wood Products Manufacture Compliance Report (40 CFR part 63, subpart DDDD);
- Stationary Combustion Turbines Semiannual and Annual Compliance Report (40 CFR part 63, subpart YYYY);
- Stationary Reciprocating Internal Combustion Engines Annual Report (40 CFR part 63, subpart ZZZZ); and
- Stationary Spark Ignition Internal Combustion Engines Annual Report (40 CFR part 60, subpart JJJ).

Contact: Eric Goehl, MPG, goehl.eric@epa.gov; or Casey Myers, MPG, myers.casey.b@epa.gov. Questions can also be sent to CEDRI@epa.gov.

Electronic Reporting for Utilities

Consolidation of Electronic Reporting for the Mercury and Air Toxic Standards (MATS) via the Emissions Collection and Monitoring Plan System (ECMPS), run by the EPA's Clean Air and Power Division (CAPD) continues. CAPD is currently working to re-engineer the ECMPS software and will provide more information in the coming year on a target date for the new web-based ECMPS 2.0. In the meantime, use of ECMPS 1.0 has been extended through the 2024 first quarter reporting period.

Contact: Christopher Worley, EMB, worley.christopher@epa.gov, (202) 343-9531.

Data Systems

The Compliance and Emissions Data Reporting Interface (CEDRI)

CEDRI is located on EPA's CDX. CDX is the EPA's node on the Exchange Network, a web-based platform for data sharing between EPA and state, local, and tribal agencies. CDX 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. CEDRI is an application within the CDX that supports the electronic submittal of reports required by 40 CFR parts 52 (Approval and Promulgation of Implementation Plans), 60 (NSPS), 62 (Federal Plans), and 63 (NESHAP or MACT), *i.e.*, performance test reports (ERT file upload), performance evaluation reports (ERT file upload), notification of compliance status reports (generally PDF upload), and periodic reports (typically a spreadsheet template). In addition to this, CEDRI also accepts reports, notifications, and applications under 40 CFR parts 49 (Federal Tribal Minor NSR), 70 (Title V State Operating Permits) and 71 (Title V Federal Operating Permits). CEDRI supports aggregation of multiple reports into a single package for submission. Reports submitted via CEDRI are Cross-Media Electronic Reporting Regulation (CROMERR) compliant, meaning that the electronic signature is equal to a wet ink signature. Additional information can be found on the CEDRI website at <https://www.epa.gov/electronic-reporting-air-emissions/cedri>.

State, local, tribal, and EPA regional office personnel can sign up to review reports submitted to CEDRI by sending an email to CEDRI@epa.gov. The email should include the reviewer's name, phone number, organization information (name, address, phone number), and email address.

Major enhancements to CEDRI since our last update include:

- Added functionality to accept 40 CFR part 52 reports.
- User interface enhancement for authorized facility officials to view users associated with their facilities.

Contact: Eric Goehl, MPG, goehl.eric@epa.gov; or Casey Myers, MPG, myers.casey.b@epa.gov. Questions can also be sent to CEDRI@epa.gov.

The Electronic Reporting Tool (ERT)

In 2009, EPA made available a Microsoft Access© desktop application called the ERT. This application creates an electronic alternative to paper reports for source emissions tests. To date, nearly 16,000 reports have been submitted via CEDRI and are available in WebFIRE in the format generated through the use of the ERT. Visit the ERT website to download a copy of the ERT, access the user's manual, find answers to frequently asked questions, or learn about training opportunities: <https://www.epa.gov/electronic-reporting-air-emissions/electronic-reporting-tool-ert>.

We posted Version 7 of the ERT on March 12, 2024. This newest version of the ERT includes a miscellaneous methods table that will allow the results of all methods that did not previously have specific ERT data tables (isokinetic methods, instrumental methods (Method 3A, 6C, 7E, 10 and 25A), and Method 30B) to be entered into the ERT. This miscellaneous methods table

addition allows all test methods to be consolidated into the ERT generated test report, whereas previously the results for non-supported methods had to be included as an attachment. Destruction and removal efficiency, destruction efficiency, and removal efficiency can also be reported using the miscellaneous methods table. In addition to the miscellaneous methods table, Version 7 of the ERT includes updated source classification codes and a new federal regulations list, including 40 CFR parts 61 and 62 and subparts in 40 CFR parts 60 and 63. The user manual has also been updated to reflect these changes. Additionally, to aid in data entry, EPA has posted an import spreadsheet for miscellaneous methods on the ERT website.

A complete list of updates to the ERT and an update history are available on the ERT website. The SCC list, regulation list, and comments we receive on the ERT will be reviewed every 6 months, which may result in an ERT update to address user enhancements. Updated versions of the ERT will be posted on the ERT website. If you have any questions or issues with the ERT, please contact Theresa Lowe by email or phone.

Contact: Theresa Lowe, MPG, lowe.theresa@epa.gov, (919) 541-4786.

WebFIRE

We continue to implement our multi-part process to improve the air pollutant emissions factors program and to make the program more self-sustaining. This past year, we continued the cleanup of our emissions factors in WebFIRE and the bulk download, improved the functionality related to report searches, and provided additional guidance for the user defined emission factor functionality that allows users to create their own factors.

Contact: Michael Ciolek, MPG, ciolek.michael@epa.gov; Casey Myers, MPG, myers.casey.b@epa.gov.

Emissions Factors

AP-42 Update

As part of the process to improve the air pollutant emissions factors program, we have continued to create and update emissions factors using the ERT data that we have received through CEDRI, as well as other data that is provided to us. This past year, we have taken the following actions on emissions factors:

- Revisions to AP-42 Section 2.2 - Sewage Sludge Incineration, finalized May 2023.
 - Information on this update is available on the EPA's website at <https://www.epa.gov/air-emissions-factors-and-quantification/final-emissions-factors-ap-42-chapter-2-section-2-sewage>.
 - Revises or adds 66 emission factors.
 - Retired source classification codes were updated.
 - Minor updates were made to the formatting of the chapter.

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- Draft revisions to AP-42 Section 2.4 - Municipal Solid Waste Landfills, noticed on January 12, 2024. The comment period for these revisions closed on March 12, 2024.
 - Information on the draft revisions is available on the EPA's website at <https://www.epa.gov/air-emissions-factors-and-quantification/draft-emissions-factors-ap-42-chapter-2-section-4>.
 - Adds three new emission factors.
 - Equation 1 has been updated to enable users to develop additional emissions factors appropriate for their landfill.
 - Minor updates to the entire AP-42 section.

Contact: Casey Myers, MPG, myers.casey.b@epa.gov. Questions can also be sent to chief_info@epa.gov.

TANKS Model

On February 29, 2024, EPA released Version 5.0 of TANKS for beta testing. TANKS 5.0 is a web-based application designed for use by local, state, and federal agencies; environmental consultants; and others to estimate air emissions from organic liquids and petroleum distillates in storage tanks. TANKS 5.0 represents an upgrade to all previous versions of the software and includes several new features and revisions to maintain consistency with EPA emissions calculation methodologies and to respond to users' comments.

Documentation of emission factors and calculations used to estimate air emissions can be found in AP-42, Section 7.1, Organic Liquid Storage Tanks. TANKS allows users to enter specific information about a storage tank (dimensions, construction, paint condition, etc.), the liquid contents (chemical components and liquid temperature), and the meteorological conditions and location of the tank (nearest city, ambient temperature, etc.) to generate an air emissions report. Report features include estimates of monthly, annual, or partial year emissions. TANKS 5.0 does not store data within the application; data are stored within your browser's local storage. The data can also be saved to your computer via excel file for longer term storage. Saved data can be uploaded to the application if your browser memory is cleared or if you change computers.

You can access the beta version of TANKS 5.0 on the EPA website at <https://www.epa.gov/air-emissions-factors-and-quantification/tanks-emissions-estimation-software-version-5>.

Alongside TANKS 5.0, we have drafted minor updates to AP-42 Chapter 7, Section 7.1. The draft changes are available on our website at <https://www.epa.gov/air-emissions-factors-and-quantification/draft-revisions-ap-42-chapter-7-section-1-organic-liquid>.

Comments on both the TANKS 5.0 application and AP-42 section 7.1 will be accepted through April 15, 2024, and can be sent to: efcomments@epa.gov.

Contact: Michael Ciolek, MPG, ciolek.michael@epa.gov; Owen Daly, MPG, daly.owen@epa.gov.

Improving Emissions Monitoring through Rulemaking

Innovative Methane Monitoring

As part of the final rulemaking for the Oil and Natural Gas Climate Review, we incorporated two pathways for the use of new methane detection technologies. In the periodic screening approach, an owner or operator would be required to survey at a set frequency based on the detection threshold of the technology being used. In the continuous monitoring approach, the owner or operator would be required to continuously monitor emissions at the site and find ways to lower the emissions if either a short-term or long-term emission threshold is triggered. In both pathways, the technology must be approved by EPA prior to use. This process will follow the existing alternative test method process. Once EPA reviews the technology, a finding will be made as to whether the approval is site-specific or can be extended more broadly to a basin or nationwide.

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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. These requests generally require the use of the ERT to submit data from source testing, and we have started collecting ICR data through CEDRI. In support of rule writers and their ICRs, MPG and MTG staff may maintain websites for responses to FAQ, hold webinars, expedite alternative testing requests, and respond to questions. In the past year, we issued ICRs that included source testing for the following sectors: Secondary Lead, Hazardous Waste Combustors, and Portland Cement.

Contact: Kevin McGinn, MPG, mcginn.kevin@epa.gov; Theresa Lowe, MPG, lowe.theresa@epa.gov; Owen Daly, MPG, daly.owen@epa.gov; Robert Bivens, MPG, bivens.robert@epa.gov.

Rule Reviews

The EPA continues to perform reviews for previously promulgated rules in 40 CFR parts 60 and 63 as mandated by the Clean Air Act. Many of these reviews are the results of lawsuits and subsequent court-ordered deadlines. When a new source performance standard is reviewed, if EPA finds that new standards are appropriate, this generally results in a new subpart under 40 CFR part 60, whereas new standards can be incorporated into existing subparts for the national emission standards for hazardous air pollutants in 40 CFR part 63.

Additionally, the EPA is performing “gap filling” due to the result of a lawsuit by the Louisiana Environmental Action Network, known as the “LEAN decision”. The decision held that EPA must incorporate limits for hazardous air pollutants into rules for source categories where those pollutants are present but are not currently regulated. The six rules for which we were mandated by the court to perform gap filling are:

- Miscellaneous Coating Manufacturing (40 CFR part 63, subpart HHHHH).
- Lime Manufacturing (40 CFR part 63, subpart AAAAA).
- Plywood and Composite Wood Products (40 CFR part 63, subpart DDDD).

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- Integrated Iron and Steel (40 CFR part 63, subpart FFFFF).
- Taconite Ore (40 CFR part 63, subpart RRRRR).
- Rubber Tire (40 CFR part 63, subpart XXXX).

In addition to these six rules, we are also evaluating whether gaps exist in every subpart under part 63 when we perform a technology review.

In addition to regulating new pollutants, we continue to improve our rules under parts 60 and 63 by incorporating better monitoring and periodic testing requirements. This includes the use of continuous emissions monitoring systems and regulating pollutants of interest instead of surrogates where feasible and practical. Where continuous emissions monitoring systems are not feasible or practical, we require parametric monitoring combined with emissions testing.

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Optical Gas Imaging

On March 8, 2024, the final version of 40 CFR part 60 Appendix K, Determination of Volatile Organic Compound and Greenhouse Gas Leaks Using Optical Gas Imaging was published with the final Oil and Natural Gas Sector Climate Review. This protocol describes requirements for optical gas imaging cameras and how optical gas imaging cameras should be used when conducting surveys for leaks. Additionally, the protocol addresses initial and ongoing training requirements for camera operators, as well as periodic audit requirements for camera operators.

Contact: Gerri Garwood, MPG, garwood.gerri@epa.gov.

Fenceline Monitoring

EPA continues to evaluate the application of fenceline monitoring to different sectors during rule reviews. In March 2024, we finalized fenceline monitoring requirements for chromium for Integrated Iron and Steel Manufacturing Facilities. The fenceline monitoring will be conducted at four monitoring locations, with samples being taken every six days.

Additionally, in 2023, we proposed fenceline monitoring requirements for 3 additional sectors: coke ovens, Synthetic Organic Chemical Manufacturing Industries (SOCMI), and Polymers & Resins I (P&R I). The proposed fenceline monitoring for coke ovens was similar to the requirements for refineries in 40 CFR part 63 subpart CC, with benzene monitoring being conducted around the perimeter of the facility using EPA Methods 325A and B. For the SOCMI and P&R I sectors, EPA proposed monitoring for six pollutants at the fenceline. EPA proposed monitoring of benzene, 1,3-butadiene, ethylene dichloride, and chloroprene using EPA Methods 325A and B and monitoring of vinyl chloride and ethylene oxide using a new canister method, EPA Method 327, that was proposed alongside the rule. The final rule for the SOCMI and P&R I sectors is expected at the end of March 2024. The final rule for the coke ovens sector is expected by the end of May 2024.

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Regulatory Requirements for New HAP Additions

On December 22, 2021, EPA promulgated a rule to add 1-bromopropane to the Clean Air Act list of hazardous air pollutants. This was the first time EPA had ever added a compound to the list of hazardous air pollutants in the over 30-year history of the list. Following the first addition of a pollutant to the list, EPA recognized that it would be beneficial to clarify information about the regulatory requirements that apply after a new compound is added to the list and how to fully integrate a newly listed hazardous air pollutant into the existing Clean Air Act section 112 program. As a result, on September 13, 2023, EPA proposed a new rule to address the regulatory impacts created when a new compound is listed. The rule addresses applicability and compliance issues that result from listing a new pollutant, clarifying the regulatory requirements that occur immediately upon the listing, what happens when a facility triggers new requirements under the Clean Air Act because the source becomes a major source of hazardous air pollutants due to the listing, and the timeline that facilities have to comply with Clean Air Act requirements after the listing. This rule includes proposed changes to 40 CFR part 63 General Provisions in subparts A and C.

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