Environmental Monitoring Coalition

Monday – August 23, 2021 at 3:00 pm ET

**1. Roll call – Uttenweiler (see attached)**

**2. July Minutes**

With the difficulties we had last month, neither David nor I had any good notes. Where my memory allowed, and where I could pull notes from the July agenda, you will see some actions described from July. As we go through each item if any of you have notes or other thoughts, please be sure to share.

For meetings going forward, the EMC Action List will highlight those items that are currently in process. Other items will be grayed to indicate the active issues. On future spreadsheets, the numbers will be color coded to indicate the status of a project.

**3. Update on Current Activities**

Collision Reaction Cell Technology – Friedman/Burrows – Action Item 2020-1

**Problem Statement:** Collision/Reaction Cell (CRC) technology for ICP-MS analysis has been around for 15 years and has shown to reduce interferences and improve the accuracy of results. This technology is allowed in Method 200.8 for wastewater but not for drinking water. The objective of this effort is to get EPA to approve use of this technology for drinking water analysis.

The Collision Cell Task Group would like to present the draft of changes to the current Methods 200.8 to the EPA. The Group would like input from the Drinking Water EPA staff to ensure the work can be incorporated. There was a short discussion on the subject. There are two documents: one is a white paper explaining the project and the second lists the suggested revisions. Richard Burrows described the scope of the requested changes that are QC-based.

Dan Hautman responded as part of the discussion. Glenda Smith at EPA was included off-line by Dan Hautman. During the discussion, it was explained that the EPA does have the authority to consider and make QC changes to an existing Method. The EPA may have the authority to include the changes. The **action item** from the discussion is that a meeting will take place between the Task Group and Dan Hautman’s group at EPA. David Friedman will contact Dan Hautman to set up a meeting.

<https://docs.google.com/document/d/1XoSBko6gOSC6B3WJU9PVAsI2TNoZW3eh/edit?usp=sharing&ouid=109747537366277579031&rtpof=true&sd=true>

Acrolein/Acrylonitrile Holding Time Study – Friedman

**Problem Statement:** The sample preservation for acrolein and acrylonitrile in aqueous samples mandated in the Clean Water Act and RCRA programs is acidification to pH 4 – 5. This differs from the pH <2 specification for other VOA’s. The goal of this effort is to determine if (1) pH <2 preservation is appropriate for acrolein and acrylonitrile and (2) a 14-day holding time is valid, and then (3) to get EPA to change their preservation requirements.

David Friedman explained that a presentation was given at NEMC on this problem. A copy of the presentation was sent to members. David explained the overall perspective with the pluses and minuses of the study. Once the Task Group has examined the metadata, there may be a way to explain some of the testing results.

Some discussion occurred on data reporting and accuracy. The Task Group will review the data for further presentation. The discussion also noted that EPA does not have any preconceived notions about the structure of the report.

<https://docs.google.com/document/d/1l-7mxgNe237wT6jcP5sJ0uc0FkYOV0ee/edit?usp=sharing&ouid=109747537366277579031&rtpof=true&sd=true>

Initial Demonstration of Capability for Drinking Water Methods– Parr

**Problem Statement:** Most EPA drinking water methods require that laboratories conduct an Initial Demonstration of Capability which includes verifying that the Half Range Prediction Interval of Results (HRPI) for all analytes is within limits published in the method. This requirement has proven difficult to meet for methods which contain many analytes. The EPA drinking water program agrees and only requires that the HRPI be met for regulated drinking water analytes. The objective of this effort is to convince states and other assessors to adopt this posture.

During the discussion, a group consisting of Sarah Wright, Judy Morgan and Jerry Parr are working on a list of people to receive the information contained in the effort. The list is now completed as well as it can be. The memorandum has been circulated to that list.

This item should be considered completed.

<https://docs.google.com/document/d/1I88IeAutzGpdaH9gS25-V2eajniiz6O7/edit?usp=sharing&ouid=109747537366277579031&rtpof=true&sd=true>

QC Criteria Effort – 608.1, 624 and 625. - Parr

**Problem Statement:** When EPA published these revised methods as part of the 2017 Method Update Rule, the QC criteria in the methods was not updated because EPA did not have the data to support a change. The objective of this effort is to compile such data from member organization laboratories and provide it to EPA so they can update the method QC criteria.

This issue is still on hold pending an electronic data deliverable specification document is not final.

<https://docs.google.com/document/d/1YB-ut4uLIdv7jYBeG9CYTcGslDIdAmLV/edit?usp=sharing&ouid=109747537366277579031&rtpof=true&sd=true>

Collaboration with EPA letter – Parr

**Problem Statement:** EMC would like to collaboratively work with EPA on method, quality control, and accreditation issues.

The final edited letter with comments from the four groups of EMC is attached. There was a discussion of the final draft version.

Final approval of the letter was discussed. Robert Uttenweiler will make the changes discussed to the wording offline. Other individuals who might be copied are John Griggs of EPA, Chair of the Environmental Methods Forum and Dan Hautman. Individuals who are carbon-copied will also be included for electronic mail distribution.

<https://docs.google.com/document/d/1r9_S-hmu_I4GhJT3vAo9v6SuA7gbmZCa/edit?usp=sharing&ouid=109747537366277579031&rtpof=true&sd=true>

Use of correlation coefficient to evaluate calibration curves - Parr

**Problem Statement:** Many environmental test methods allow for the use of correlation coefficient (r) and/or coefficient of determination (r2) even though this has been proven to be inappropriate.

Information from an NEMC presentation by Richard Burrows was put into a spreadsheet by Jerry Parr. Richard Burrows explained the data points and the relative error considerations in the data. The best used methods also were discussed.

Michael Flournoy questioned how good or bad the data can be for assessors. Some labs may not want to go with the 1/concentration squared method. TNI has added in requirements to measure standard error. Jack Farrell questioned the impact on laboratory operations which there was not and that is an improved quality impact at the low end of the spectrum.

There was a discussion of the letter to John Griggs were discussed. Edits were made offline, and the new version is embedded below.

After more extended discussion, the issue was tabled. Jerry Parr will work on revisions for the upcoming September meeting.

<https://docs.google.com/document/d/11XiYmBFfaXWJ6R9NA3LpwB2h0XZqBRAp/edit?usp=sharing&ouid=109747537366277579031&rtpof=true&sd=true>

SARS-CoV-2 testing

**Problem Statement:** Wastewater surveillance has become widely recognized as a useful complement to clinical testing for monitoring and informing response to the spread of the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). However, this testing is currently not included within the scope of any laboratory accreditation program.

Note: I believe in the July meeting we decided to table this topic as EMC is not yet ready to support a recommendation. It is included this month for informational purposes only.

This issue will be sent over to the TNI Board for consideration. This will not be included going forward.

<https://docs.google.com/document/d/1jAPl5KVKV98faO_wd3DioOEL5AXoXNn-/edit?usp=sharing&ouid=109747537366277579031&rtpof=true&sd=true>

**4. Potential New Business**

EPA Presentations at NEMC

On August 2, at NEMC, Adrian Hanley, Jennifer Best, and Troy Stock gave updates on activities for each of their program offices. Attachment 1 is a summary of the presentation prepared by notes taken by Jerry. Links to the presentations themselves are also provided. Is there anything on this list that EMC should take on?

After discussion, it was decided to table the discussion for the September meeting.

Drinking Water Certification Officer Course

David Friedman mentioned an email from Sharon Mertens concerning virtual training for the drinking water certification course. After the call, she went back and found out she and Dan Hautman had discussed this and EPA is developing the concept so no action by EMC is required.

**5. Any other business**

There being no further business, the meeting was adjourned at 4:19 pm.

**Attachment 1: EPA Updates from NEMC**

On August 2, 2021, as part of the National Environmental Monitoring Conference, EPA provided updates from the RCRA, CWA, and SDWA programs. Recordings of these presentations are available to conference attendees who can still register at <https://iattend.net/EventHome?id=ems21>. Portable Document Files of these presentations will be available on the NEMC website after November 1, 2021. A brief summary of each presentation is summarized below.

**EPA Clean Water Act Method Update**

* Published Method 1628 (low-resolution GC/MS for PCB Congeners) and validation study report.
* Developing methods for *E. coli* and *enterococci* by droplet digital PCR for ambient water.
* Updating Method 900.0 for gross alpha and beta based on work by the drinking water program.
* Working with ASTM and ORD for a method for Adsorbable Organic Fluorine.
* Working with DOD for a method for PFAS.
* Working with ASTM and Standard Methods for a method for total nitrogen.
* Conducting a pilot study for continuous monitoring for residual chlorine.

<https://drive.google.com/file/d/1icKDGJ-j2_Y5-tio4iffPwKRsrKRItPs/view?usp=sharing>

**Safe Drinking Water Act Updates**

* America’s Water Infrastructure Act requires small systems (3,300 to 10,000) to apply to UCMR 5. This will add > 5,000 systems.
* UCMR 5 lab approval program: [UCMR\_Lab\_Approval@epa.gov](mailto:UCMR_Lab_Approval@epa.gov).
* Microbial and Disinfection By-Products (MDBP) rule identified eight analytes for review: chlorite, *Cryptosporidium*, haloacetic acids, heterotrophic bacteria, *Giardia*, *Legionella*, trihalomethanes, and viruses.

<https://drive.google.com/file/d/1Xu8D3NcGx665ozwwIpiEWUu_X5r4WLpV/view?usp=sharing>

**SW-846 Methods Program Update**

Methods 3512/8327 for PFAS

* Definitions and designations for target analytes table in Section 1
* Recommends statistically-based recovery limits once the laboratory has acquired sufficient data
* Qualitative identification criteria
* Secondary product ion ratio: recommended ±50% acceptance limit
* Retention time:
  + Primary: within ±0.1 min of corresponding isotopically labeled analog
  + Secondary: within ±0.2 min of target analyte in preceding standard
* Aqueous holding time: 14 days
* Guideline until formal holding time study is published
* SW-846 Methods for non-Method Defined Parameters are considered guidance, and isotope dilution is an allowed modification, as long as:
  + Laboratory demonstrates it can generate data of appropriate quality for the intended application (i.e., meet project-specified Data Quality Objectives)
  + Modification is acceptable to the end data user
* Method 8327 was validated using external standard calibration, and EPA met validation study goals for 23 of 24 target analytes
  + exception: 6:2 FTS, due to contamination in half of participating labs)
* Average recovery of target analytes and isotopically labeled surrogates in study samples was near 100%.
* See “Frequent Questions” in SW-846 Update VII Announcement for more information and references:
  + <https://www.epa.gov/hw-sw846/sw-846-update-vii-announcements>

Method 3050C for Acid Digestion of Solids

* Strong acid digestion to solubilize metals that could become “environmentally available”
* 3050B has different digestion steps for ICP-OES (6010D)/AA and ICP-MS (6020B)
* Two digestions needed to analyze a solid sample by both ICP and ICP-MS
* No HCl added during digestion of samples to be analyzed by 6020B
* ICP-MS collision cell technology reduces Cl-related interferences, so system can tolerate more Cl in digests
* 3050C changes:
* Add HCl earlier, improves performance of some metals (e.g., Antimony)
* One solids digestion for both ICP and ICP-MS
* Post method for public comment by the end of 2021

Leaching Environmental Assessment Framework (LEAF) Methods for Organics

* Parameter-based aqueous leaching methods, LeachXS-Lite software for data management/visualization/analysis, case studies
* Evaluate effect of key environmental conditions on leaching behavior.
* Modifications to accommodate SVOCs:
  + Replace plastic with glass, stainless steel
  + HCl/KOH instead of HNO3/KOHfor pH adjustment
  + Alum or centrifugation for liquid-solid separation - no particle filtration for organics
  + Sorbent for 1315 to maintain gradient for evaluation of contaminant flux for less soluble target analytes
* Start multi-laboratory validation in Spring or Summer 2022

Revise Method 3050C and 5035A and solicit comments in late 2021.

Developing headspace method for “light hydrocarbons.”

Revising Chapter 9 (See Attachment 4).

* Add new methods series (2000 series) for representative sampling:
* Metals in Soils - Written by US Army Corps of Engineers
* Explosives Residues in Soils – Currently an appendix to Method 8330B
* Volatile organic chemicals in soils
* Passive sampling of PAHs and PCBs in sediment – SERDP-funded project

On the Horizon

* 6200: X-Ray Fluorescence for metals
* 1340: In-vitro Bioaccessibility for lead
* 3110/6870: Arsenic species by IC/ICP-MS
* 0023A, 3542Q/8290: Chlorinated Dioxins and Furans from stationary sources
* 8321: HPLC/TS/MS or UV for non-volatile compounds
* Non-porous graphitized carbon cleanup for pesticides

<https://drive.google.com/file/d/1FepVWWdH5-Mc_XdzBzASTQMJ3EW4szZD/view?usp=sharing>

**Roll Call**

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| --- | --- | --- |
| **Members** | **Organization** | P / A |
| Jordan Adelson | US Navy (DOD ELAP) | P |
| Kristin Brown | Utah DOH | P |
| Richard Burrows | Eurofins | P |
| Michael Delaney | MRWA (retired) | P |
| David Friedman - Vice Chair | ACIL | P |
| Jay Gandhi | Metrohm | P |
| Mary Johnson | Rock River Reclamation District (WEF) | A |
| Kitty Kong | Chevron | A |
| William Lipps | Shimadzu | P |
| Sharon Mertens | Milwaukee MSD (TNI) | A |
| Judy Morgan | Pace Analytical (ACIL) | P |
| Jerry Parr - Chair | TNI | P |
| Steven Rhode | MWRA (APHL) | P |
| David Thal | Environmental Standards | A |
| Sarah Wright | APHL | P |
| **Staff / Invited Guests** |  |  |
| Tarun Anumol | Agilent Technologies | P |
| Richard Bright | ACIL | A |
| Jack Farrell | AEX | P |
| Michael Flournoy | Independent Consultant | P |
| Zach Mandera | Oregon DEQ | A |
| Brad Meadows | Babcock Laboratories | A |
| Lori Pillsbury | Oregon DEQ | A |
| Robert Uttenweiler | ACIL | P |
| Kathleen Young | PerkinElmer | P |
| **EPA** |  |  |
| Dan Hautman | EPA OW OGWDW | P |
| Adrian Hanley | EPA OW OST | A |
| Kim Kirkland | EPA | A |
| Troy Strock | EPA | P |
| Sarah Burket | EPA OW OST | A |
| Lemuel Walker | EPA OW OST | P |
| Brian D’Amico | EPA | A |
| Sandip Chattopadhyay | EPA | P |
| Jesse Pritts | EPA | A |