

**TNI Chemistry FoPT Subcommittee
Meeting Summary
November 3, 2009**

1. Roll call and Meeting Minutes:

Co-Chair Brian Boling called the Chemistry FoPT Subcommittee to order on November 3, 2009, at 12pm EST. Attendance is recorded in Attachment A.

The minutes from the October 27, 2009 meeting were distributed and reviewed. Dan motioned to accept the minutes and Stephen seconded this motion. They were unanimously approved. They will be forwarded to the webmaster for posting on the TNI website.

2. PT Acceptance Limits

Low Level Mercury and Low Level Total Residual Chlorine

We received the following message from Patrick Yellin from EPA:

An issue has surfaced, of some analytes that are in some states' permits but are not part of The Nelac Institute's (TNI) Fields of Proficiency Testing (FoPT) tables. These analytes specifically are:

§ Low level mercury

§ Low level total residual chlorine

Under Chapter 2 Appendix C Section C.4.1 Additional Matrix/Analyte Groups, in the 2003 NELAC standard for Proficiency Testing, I am requesting that these two analytes be added to the FoPT. The justification for this request is that several states are requiring these analytes in their NPDES permits. This will help to improve the coverage of Discharge Monitoring Report - Quality Assurance (DMRQA) studies.

I am seeking to have these analytes made effective prior to the start of DMRQA Study 30, which is currently slated to start on February 15, 2010.

However, in order to allow the use of WP from the start of the 2010 calendar, it would be necessary to have the analytes made effective by January 1, 2010.

Please note that the "regular" level mercury and total residual chlorine are still needed in DMRQA studies. .

I have polled state coordinators on what analytes they use and what the typical permit limits are. Attached are the responses that I received.

If you have any questions, please feel to contact me via email at yellin.patrick@epa.gov, or at 202.564.2970.

(See attached file: Low Level Hg and TRC issue to TNI.doc)- Included in these minutes as Attachment B.

Some concerns were expressed on the timing to work through these limits to meet the next DMRQA study deadlines. This was deferred to the PT Board.

Low Level Mercury - 1631

Jeff looked at the concentration ranges from the different PT Providers which vary from approximately 0.5 to 300 ng/L. At least five TNI PT Providers offer this PT standard. Carl e-mailed his suggestion of +/- 40% for the limits, but did not suggest a concentration range. The data Patrick Yellin (EPA) gathered from several different states, suggest an action limit (permit limit – monthly average, daily maximum, etc.) as low as 1.3 to 25 ng/L. The group discussed many options and suggested perhaps it would be better to have more data – leave it where it is and re-evaluate next time. At 20-100 ng/L, the lower limit would be at the action limit. Brian will see if there is anymore data below 20 ng/L and provide this to the subcommittee if it becomes available.

After additional discussion, a motion was made: 20-100 ng/L with linear regression. Include a note that R^2 does not meet the SOP requirements.

Motion: Dan Dickinson Second: Steve Vote: Unanimous

Low Level Total Residual Chlorine

Jeff looked at the concentration ranges from the different PT Providers which vary from approximately 10 to 500 ug/L. At least four TNI PT Providers offer this PT standard. Carl had sent an e-mail with the following comment: *Totally reject formulating or requiring any low-level chlorine PT in NPW where the concentration range is below 0.5 mg/L (500 ug/L).* This is inconsistent with the document Patrick Yellin sent regarding Florida (Attachment B).

The subcommittee reviewed the various methods that might be used for this analysis. Hach 10014 ULR is the method some use. The method claims you can see 17 ug/L with this method. SM4500G (AMP titration) contains an MDL of 10 ug/L. Both of these methods are the methods presently reported in at least one PT provider's data.

North Carolina is the state that is promoting this analysis. Permits range is from 17-28 ug/L. Based on EPA Region 4 discussions, NC recently changed their compliance threshold to 50 ug/L; facilities must report whatever TRC value is recorded, but all TRC values below 50 ug/L are considered zero for compliance purposes. Several other States responded with action limits between 7 and 33 ug/L.

What limit can we set that still allows us to gather more data? Brian will check with some of the other PT Providers to see if they have any more data.

Dan Tholen suggested that the overall data examined shows a fairly consistent standard deviation of 20 ug/L. The regression equation developed widens out considerably at the low concentration and the data is scattered causing the standard deviation R^2 to fail the SOP requirements. Also, the regression develops considerably tight limits above 250 ug/L.

After additional discussion, a motion was made:

50 – 250 ug/L with a regression equation ($Y = a + bx + c$ ) where $a=1$, $b=0$, $c=0$, $d=20$. Effectively you are at +/- 60 ug/L. Note R^2 does not meet the SOP requirements and the 10% rule takes into effect at about 66 ug/L.

Motion: Jeff Second: Steve Vote: Yes – 6 Proxy vote from Carl: No
Motion passes.

3. New Items

None.

4. Next Meeting

The next meeting of the Chemistry FoPT Subcommittee will be November 10, 2009, at 12PM EST. We will be meeting weekly until the limit updates are complete.

Action Items are included in Attachment C and Attachment D includes a listing of reminders.

The meeting ended at 1:15pm EST

.

Attachment A

Participants TNI Chemistry FoPT Subcommittee

Members	Affiliation	Contact Information
Carl Kircher, Co-Chair Present for last part of meeting.	Florida DOH	904-791-1574 carl_kircher@doh.state.fl.us
Brian Boling, Co-Chair Present	Oregon DEQ	Boling.Brian@deq.state.or.us
Amy Doupe Absent	Lancaster Laboratories, Inc.	717-656-2300 x1812 aldoupe@lancasterlabs.com
Jeff Lowry Present	ERA	303-431-8454 jlowry@eraqc.com
Chuck Wibby Absent	Wibby Environmental	303-940 -0033 cwibby@wibby.com
Eric Smith Absent	TestAmerica	615-726-0177 x1238 eric.smith@testamericainc.com
Dan Tholen Present	A2LA	231-929-1721 Tholen.dan@gmail.com
Stephen Arpie Present	Absolute Standards, Inc.	203-281-2917 stephenarpie@mac.com
Dan Dickinson Present (until 1pm)	New York, DOH	518-485-5570 dmd15@health.state.ny.us
Stacey Fry Absent	E.S. BABCOCK & Sons, Inc.	951-653-3351 x238 sfry@babcocklabs.com
Jim Present		mousejr@nu.com
Ilona Taunton, Program Administrator Present	TNI	828-712-9242 tauntoni@msn.com

Attachment B

Responses from State DMRQA Coordinators

Arizona

AZPDES permit limits are based on the designated uses of the receiving surface water. Currently the lowest surface water standard for mercury is 0.01 ug/L, so the lowest limits would be based on that (there are some statistical calculations involved in establishing the applicable

discharge limits, so the limits may be slightly higher or lower, but generally in that range. [T]he HACH 10014 method is required for TRC. The lowest standard for TRC is 11 ug/L; typical discharge limits for TRC are 9 ug/L as a monthly average and 18 ug/L as a daily maximum.

California

CA is using low level mercury and low level methyl mercury in the north due to the mercury contamination in the Sacramento River/San Francisco Bay water shed. The south is beginning to change owing to the action level of 12 ppt. We use 1630 and 1631.

We are requiring the use of Std Methods 4500ClE, F, or G as the action level is 7 - 10 ppb (depends on Regional Board permitting policies). We are writing a chlorine policy that will deal with the use of in-line or continuous monitoring as facilities chlorinate then dechlorinate before discharge and discrete monitoring is ineffective in detecting short-term discharges of chlorine owing to dechlorination failures.

Florida

- 1) There is a requirement for low level mercury and low level TRC for some, based upon the effluent quality and size of the receiving stream (low flow or high flow)
- 2) The method required is 1631E
- 3) Again it depends on the effluent and the receiving water body (size).

Many of our permits (but not all) require low-level monitoring for Total recoverable Mercury. Permit limits are generally in the range of 0.012 ug/l (Class I waters) to 0.025 ug/l (Class II Waters).

As for Residual Chlorine, pretty much all facilities that use chlorination for disinfection will need to monitor for TRC at a level of 0.01 mg/l.

For methods:

We would allow any that are currently approved at 40 CFR 136.3 Table 1 that are appropriate for the permit level of quantification. In addition, we have a DEP SOP for chlorine that incorporates several of the approved Standard Methods.

We do not allow 245.1 for the low-level mercury.

Indiana

Indiana does Low Level Mercury 1631E. Effluent limits when added to a permit are 1.3 ng/L monthly average and 3.2 ng/L daily max.

Louisiana

LA has not adopted the lower MQL's at this time, waiting for approval from Region 6. But the proposed MQL for mercury is 0.005 ug/L and 33ug/L for chlorine. As I stated earlier these are still in draft stage and may not be implemented soon. LA is using Method 1631 when TMDL or mercury minimization require lower reporting limits.

Maine

Our low-level mercury requirement has been in place for almost a decade. The Maine State Legislature requested DEP to establish Mercury criteria in 1999. DEP sampled the POTW and industrial effluents in 1999 and 2000. The specified analysis in the Maine permits is by EPA Method 1631. Our current ambient Hg background level in Maine is 4.5 nanograms average and 6.25 nanograms maximum. The POTW's license limits were determined by averaging the early low-level Hg results at each facility. The permit limits vary, but we expect that most will continue to comply as long as the amount of Hg discharged does not increase from historical levels. We have encouraged pollution prevention and public education programs. We will do another round of statistical analysis in the future as more effluent Hg data is now available.

Minnesota

In Minnesota we have a low-level Hg and TRC requirement in most NPDES permits. The Hg limits vary by permit but can be in the ng/L range requiring the clean hands / dirty hands sampling technique. The analytical method used is invariably 1631E in that one particular lab that specializes in Hg analyses does the lion's share of the DMRQA and WP Studies Hg analyses. Our TRC limit is invariably 0.038 mg/L for those who have TRC analysis written into their permits. We allow any TRC analytical method that is EPA approved/accepted for wastewater providing it can achieve a Reporting Limit of < 0.05 mg/L. This then would be the TRC action level. If the permittee gets a high TRC; following remedial investigation and action we allow him/her to take up to a maximum of 12 samples that day and report the average on the DMR.

I pulled up all the NPDES permittees with Hg in their permits and found the following maxima and minima. I found multiple facilities with these pairs of limits written into their permits so am assuming the permit writers deem these to be *typical* highs and lows.

Low end:

□□□□□□□□1.8 ng/L max. monthly avg.

□□□□□□□□3.2 ng/L daily max.

High end:

□□□□□□□□17 ng/L max. monthly avg.

10 ng/L daily max.

North Carolina

Mercury- not all permittees are required to use low level mercury analysis. Approximately 150 facilities were identified for that requirement, based on theoretical mercury limit and dilution. Most facilities are probably using 1631E, but our requirements are just that they use low level EPA approved methods per 40 CFR 136. The lowest limit we have in permits is 12 ng/l (our water quality standard, with no dilution provided). Last I looked, applicable permittees were reporting down to 1 ng/l or even 0.5 ng/l.

TRC- all facilities that chlorinate or discharge chlorinated water will have a TRC permit limit, currently ranging between 17 ug/l to 28 ug/l. Based on EPA Region 4 discussions, we recently changed our compliance threshold to 50 ug/l; facilities must report whatever TRC value is recorded, but all TRC values below 50 ug/l are considered zero for compliance purposes. This is consistent with all other EPA Region 4 states. Once again, all we require for analytical methodology is that they use an EPA approved method per 40 CFR 136.

South Carolina

We require low-level mercury and chlorine. Method 1631A is required for Mercury and we allow any approved method for residual chlorine as long as they meet the necessary requirements.

Attachment C

Action Items – Chemistry FoPT Subcommittee

	Action Item	Who	Expected Completion	Actual Completion
13.	Prepare letter to ABs to find out their needs on analytes that may be under consideration for deletion. <i>(3/24/09 – It was determined that these tables are used by more than just ABs. This needs to be reconsidered.)</i>	TBD	TBD	
19.	Request the final revision of the SOP #4-001 Guidelines for Calculation of Acceptance Limits from the TNI PT Board.	Eric/Carl	5/5/09	PT Board is reviewing it for finalization by next mtg.
22.	Prepare for upcoming meetings by reviewing evaluation files that Jeff will send every 2 weeks.	All	Ongoing	
34	Prepare tables with Experimental Analyte data.	Jeff	11/2/09	
38	Low Level Mercury - Brian will see if there is anymore data below 20 ng/L and provide this to the subcommittee if it becomes available.	Brian	On-going	
39	Low Level Total Residual Chlorine - Brian will check with some of the other PT Providers to see if they have any more data.	Brian	11/17/09	

Attachment C

Backburner / Reminders – Chemistry FoPT Subcommittee

	Item	Meeting Reference	Comments
1	Review summary data to see if it supports a change in the acceptance criteria for DW analytes (For example, VOA, 30% instead of 20%). If data is supportive, Jeff Lowry will approach ELAB.	10-30-08	3/10/09 - Jeff has approached ELAB. They would be happy to put it in a work group – and pass it along with a letter to EPA. We need to provide them with the data.
3	Consider changing the lower limit for Vanadium on WP to 50 ug/L.	6-30-09	
4			
5			