

TNI Chemistry FoPT Subcommittee
Meeting Summary
June 5, 2012

1. Roll call and Meeting Minutes:

Chair Carl Kircher called the meeting of the Chemistry FoPT Subcommittee to order on June 5, 2012 at 12:07 EST. Attendance is recorded in Attachment A. There were 7 members on the call.

Dan Tholan made a motion to accept the minutes from the May 22, 2012 meeting. The motion was seconded by Joe and unanimously approved.

2. SOP 4-101

Carl sent out a DRAFT paragraph for the PTP EC to put on their agenda. It was sent 5/22/12:

Dear Subcommittee Members,

During the teleconference, I heard discussions that I thought should lead to an Action Item that I should write to the PT Executive Committee to get their advice and approval. Here is the inquiry to the PT Exec. Committee:

Dear PTEC Members;

The Chemistry FoPT Subcommittee members have been making serious considerations on Non-Potable Water analytes that are both problematic analytically and difficult statistically. The present EPA PT evaluation system of using regression equations of robust means and robust standard deviations versus the Assigned Values are not very defensible for these analytes, and blanket recommendations of "Participant Mean +/- 3 Standard Deviations" can introduce other vulnerabilities to the NELAP PT Program. Since extractable organics analytes exhibit negative bias in recoveries with most laboratory test methods, the Subcommittee seeks the PT Executive Committee's concurrence and approval for the Subcommittee to recommend Fixed PT Acceptance Limits that are asymmetrical with respect to the made-to Assigned Value, for example, 60-120% of Assigned Value. Such a recommendation is contrary to the current SOP language for considering Fixed Limits (currently, b and d coefficients small compared to coefficients a and c times the concentrations, respectively). Such recommendations are probably forthcoming when the Solid/Chemical Materials FoPTs are considered in the future. Please let the Subcommittee know if there any PTEC objections or potential NELAP AC problems if such asymmetrical Fixed Limit recommendations are provided for problematic Non-Potable Water analytes. Thank you very much.

Responses:

From Dan Tholen:

Carl-

I think your proposal is worded well, and sensitive to the realities of what the committee is asking, which is for an expert determination of evaluation criteria for these analytes. What recoveries can we expect that are technically feasible, protective of public health (minimum recovery,) and economically defensible (maximum over recovery)? I worry that we are asking a very difficult question, so it might be useful to inform the Expert Committee that for the past few years we have been accepting approximately 10%-140% recovery for the phenols (or 10% to 200% if you prefer). If you inform the PTEC of this maybe it will make them more comfortable with their decision. If you inform them further that prior to the addition of footnotes to the FoPT tables we were accepting 0% to 200%, maybe they will feel even better. You could also remind them that the assigned values are metrologically traceable to NIST and homogeneity has been assured, so this suggestion reflects the limitation of the method, not the material. My objections today were largely motivated by the fact that we have excellent information available in TNI right now, but we are ignoring it for reasons that are largely related to inconvenience and a lack of respect for our own standards and SOPs; plus, I know, limitations of volunteer time.

How to evaluate performance? what choices are available? how to determine them? One example I use is Toxaphene in drinking water, using TNI data and the linear regression equation - my European colleagues have shown me a published article on a similar approach that uses a method similar to ours, but uses a quadratic regression equation (essentially c d and e coefficients), that yield much better R-squares for standard deviations. Next month ISO TC69 will meet and we will consider adding this example to the revision of ISO 13528: Statistical Methods for PT, I intend to show how the quadratic equation improves on the linear (its in the draft CD2).

From Dan Dickinson:

Carl,

It is possible that they would be curious about the "other vulnerabilities" associated with scoring by Participant Mean +/- 3 Standard Deviations. Since the intent is to sell asymmetric fixed limits, it may be necessary to describe the vulnerabilities and their significance, if necessary. I can't think of many vulnerabilities other than the overly large acceptance windows 3SD would generate when the study RSD is >33 %. Since that would be true for all PT providers because these are such poor performing method analytes, its unlikely that differences in challenge would be evident across all PT providers.

A more realistic asymmetrical limit example would be 10%-110%.

Carl will pass this along to the PTEC for their next meeting. There was no disagreement with the content of the request.

Carl has not gotten any additional comments on the SOP.

3. NPW FoPT Table Analytes

2,4-D

The study concentration was 2.36 – 9.88 ug/L. Carl commented previously by e-mail: all SOP criteria met (correlation coefficients), use the new regression equations with abcd coefficients as presented on pdf file, recommend concentration range of 2-10 ug/L

This analyte is subject to some of the typical herbicide issues. Dan T. was considering an asymmetrical acceptance limit – fixed.

A motion was made by Joe. to use a concentration limit of 2 - 10 ug/L for 2,4-D on the NPW FoPT accreditation table and use the new regression equation with the abcd coefficients described in the PDF provided by Jeff (dated 11-17-2010).

There was no second to the motion.

This analyte and the other three herbicides (2,4,5-T, 2,4,5-TP (Silvex) and Dicamba) will need to be reconsidered as to whether they belong on the FoPT table.

All Arochlors

Carl had the following comments on PCBs by e-mail:

CCK initial analysis: PT data available for only 5 of the 7 “common” Arochlors. Only PCB 1260 produces regression equations that pass all our SOP criteria. The regressions for the other 4 Arochlors (1016, 1242, 1248, 1254) fail the r-squared for Std Dev vs. AV. The plotted graphs for these 4 Arochlors also show convergence despite applying all available SOP options.

Therefore, is it acceptable for this Subcommittee to use the pooled data for ALL Arochlors, derive the concentration ranges and acceptance criteria, and use these criteria for ALL 7 Arochlors (regardless of the Aroclor selected for the PT spike)?

If the answer to this question is “yes”, then all of our SOP criteria are met for “All Arochlors.” Carl recommended to use the regression equations with abcd as presented in the pdf file. He recommend a concentration range of 1.5-14 ug/L to expand and bracket

the highly variable and narrow concentration ranges currently tabulated for the individual Aroclors.

The study concentration listed in the Excel summary table is 1.61 -10 ug/L. Carl suggested having some concentration 1.5 -14 ug/L for all 7 Aroclors – 1016, 1221, 1232, 1242, 1248, 1254 and 1260. He also suggested the use of the new regression equation with the abcd coefficients described in the PDF provided by Jeff (dated 11-5-2010).

Dan commented that a lot of the higher end data was deleted. He would be comfortable only going to 10 and not 14. The slope is different. He would prefer to see 2-10 ug/L. Carl would be in agreement with this.

Jeff commented that 1016 and 1254 are similar. People have a tendency to mix them up. He strongly suggested changing the current regression on 1242.

A motion was made by Jeff to use a concentration limit of 2 - 10 ug/L for All Arochlors on the NPW FoPT accreditation table and use the new regression equation with the abcd coefficients described in the PDF provided by Jeff (dated 11-5-2010). The motion was seconded by Stephen and unanimously approved.

Re-examine FoPTs

Alkalinity, total (CaCo3)

This was previously looked at on 10-18-2011. The previous approval was for 25-200 mg/L and to keep the present regression. The r2 failed the SOP criteria and this analyte is being reconsidered. Dan D. would like to consider looking at this analyte at below 40 and above 40 mg/L.

Dan D. would like it to be recalculated excluding the points under 25 mg/L.

A motion was made by Jeff to use a concentration limit of 25- <40 mg/L for Alkalinity on the NPW FoPT accreditation table and use of the assigned value +/- 20% fixed. In addition, a concentration limit of 40 – 200 mg/L for Alkalinity and the use of the assigned value +/- 15%. The motion was seconded by Stephen and unanimously approved.

Orthophosphate as P

It was previously approved on 6-28-11 with the present regression and a concentration of 0.5 – 5.5 mg/L.

Stephen suggested changing the lower limit to 1 mg/L and Carl suggested changing the upper to 10 mg/L. Dan D. suggested a fixed limit of +/-20%. The drinking water is +/- 15%.

A motion was made by Dan D. to use a concentration limit of 1-10 mg/L for Orthophosphate as P on the NPW FoPT accreditation table and use of the assigned value +/- 15% fixed. The motion was seconded by Stephen.

Discussion: Joe asked about the use of 2 vs. 3 standard deviations. A fixed limit is being discussed.

Vote:

5 - For

1 - Against - Jeff

1 - Abstain - Joe

The motion was not approved.

4. Action Items

See action item table in attachments.

5. New Business

None.

6. Next Meeting

The next meeting of the Chemistry FoPT Subcommittee will be June 26, 2012, at 12:00 PM EST.

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

Stephen motioned to adjourn the meeting and Jeff seconded the motion. Unanimously approved. The meeting was adjourned at 1:33 pm EST.

Attachment A

Participants TNI Chemistry FoPT Subcommittee

| Members | Affiliation | Contact Information |
|---|---------------------------------|--|
| Carl Kircher, Chair Present | Florida DOH | 904-791-1574 carl_kircher@doh.state.fl.us |
| Joe Marotti Present | Sigma-Aldrich RTC | 307-721-5485 jmorotti@sial.com |
| Amy Doupe Absent | Lancaster Laboratories, Inc. | 717-656-2300 x1812 aldoupe@lancasterlabs.com |
| Jeff Lowry Present | Wibby Environmental | 720-560-2232 Jlowry@wibby.com |
| Mark Mensik Absent | Wibby Environmental | 303-940 -0033 MMensik@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 | New York, DOH | 518-485-5570 dmd15@health.state.ny.us |
| Stacey Fry Present | E.S. BABCOCK & Sons, Inc. | 951-653-3351 x238 sfry@babcocklabs.com |
| Ilona Taunton, Program Administrator Present | TNI | 828-712-9242 tauntoni@msn.com |

Attachment B

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 | Ongoing | |
| 87 | Discuss views on dropping problem analytes with the PTP EC. | Carl | Next PTP EC Meeting | |
| 88 | Review SOP 4-101 distributed by e-mail on 4-24-12. Prepare any additional comments for the PT Exec Committee in writing and send to Ilona for review at the next subcommittee meeting on 5/8/12. | ALL | 5/4/12 (Friday) | |
| 89 | | | | |
| | | | | |

Attachment C

Backburner / Reminders – Chemistry FoPT Subcommittee

| | Item | Meeting Reference | Comments |
|---|--|-----------------------------|---|
| 4 | Consider nomenclature differences between the analyte codes and the FoPT tables. | 2-23-10 | |
| 6 | From PT Board: South Carolina requested that low level EDB and DBCP (8011) be added to the NPW table. | 4-15-10 PT Board Meeting | They were added to the solids table where they were experimental. They were not experimental on the NPW table. 3/13: Close out on Subcommittee table and bring up at PTEC meeting. New member is from SC and they can use the new SOP for adding analytes to address this. |
| 7 | Review completed NPW table and look for grouped analytes that behave similarly and look for consistent criteria. Compare results to Drinking Water values too. | 11-30-10 | |
| 9 | | | |