

**TNI Chemistry FoPT Subcommittee
Meeting Summary
February 24, 2015, 2015**

1. Roll call and Meeting Minutes:

Chair Carl Kircher called the meeting of the Chemistry FoPT Subcommittee to order on February 24, 2015 at 12:06 ET. Attendance is recorded in Attachment A. There were 6 members on the call.

There was no meeting on February 10, 2014.

The committee reviewed the January 20, 2015 minutes. Jeff made a motion to approve the minutes. The motion was seconded by Stacey and unanimously approved.

The committee also reviewed the July 15, 2014 minutes where there were a few discrepancies between the notes and the summary table. The committee was not sure why statements made were not in the data summary. The following corrections will be placed directly into the 7/15/14 minutes:

- Lead did pass fixed limit criteria at 23.7%.
- Manganese did not pass fixed limit criteria as stated in the minutes.
- The study concentration for Manganese should read 260-1020 mg/Kg based on the study means and not 267-1120 mg/Kg based on AV.

Committee members were asked to review these changes and confirm that their motions, seconds and votes should remain the same as stated in the minutes. If there are any changes needed, they need to be changed through the rescinding a vote process in Robert's Rules of Order.

A motion was made by Andy to approve the 7/15/14 minutes with the three changes noted above and the blue text removed in the minutes attached to the 2/11/15 email from Ilona. The motion was seconded by Stacey and unanimously approved.

Note from Carl 11/19/14:

Dear Ilona and Subcommittee Members,

This e-mail is actually in reference to the July 15, 2014 teleconference minutes, where questions were raised about the numbers cited as PT study concentrations.

As near as I can figure out, each of the Metals evaluated during this particular teleconference had previous evaluations and PDF's issued based on the Mean-vs.-AV and SD-vs.-AV linear regressions with a,b,c,d coefficients. A couple of these Metals were actually discussed and voted on under this model during the June 3, 2014 teleconference. However, subsequent to that, it was discussed and voted on that we

should consider ALL the SCM Metals under the model of Study Mean and a SD-vs.-Mean linear regression with c,d coefficients. I had to re-do all the Excel files, that were previously evaluated under a,b,c,d, under a new TAB in Jeff Lowry's templates so the revised PDF's could be presented based on Study Mean and c,d.

I am not sure, Ilona, how you want to reflect these in the minutes, but here are the differences in the various numbers that you talked about:

Beryllium: PT study concentrations varied from 56-196 mg/kg based on Assigned Value (defined here as the made-to TRUE concentration in the PT), and from 50.6-190 mg/kg based on robust Study Means.

Chromium: PT study concentrations varied from 68-310 mg/kg based on AV, and from 71.1-299 mg/kg based on Study Means.

Cobalt: PT study concentrations varied from 14-241 mg/kg based on AV, and from 12.6-216 based on Study means.

Copper: PT study concentrations varied from 45-310 mg/kg based on AV, and from 43.4-318 mg/kg based on Study Means.

Lead: PT study concentrations varied from 47-251 mg/kg based on AV, and from 41.4-224 mg/kg based on Study Means.

Barium: PT study concentrations varied from 101-1140 mg/kg based on AV, and from 77.1-1030 mg/kg based on Study Means.

Manganese: PT study concentrations varied from 267-1120 mg/kg based on AV, and from 260-1020 mg/kg based on Study Means.

This situation is exactly the reason why I spent some time during our last teleconference to explain that, when we present PDF's based on Mean and c,d, the x-axis in the upper graph on page 1 and the min and max concentrations in the header represent Study Mean concentrations rather than the True (Assigned value) concentrations (which is in fact labeled correctly as Assigned Value True concentrations when we do the a,b,c,d presentations). Hopefully you'll recall that I made a statement that the Study Means were not that much different from the Assigned Values for the SCM Metals, where the Mean Recoveries relative to Assigned Values were typically running around 90%. However, the Mean Recoveries are (not too surprisingly) lower for the Organochlorine Pesticides, about 70-80% of Assigned Values. I just wanted to make sure that everyone on the Subcommittee is reading the PDF's that we submit appropriately, without too much confusion. Pleading guilty as charged, I will say that my presentation here in this e-mail is a good reason why ISO in the international community is discussing the overall concept of "Assigned Value" carefully at this time.

I hope this e-mail allows the July 15 minutes to be "corrected," presented, and approved.

2. SCM FoPTs

Carl distributed analytes for consideration today on 2/3 and 2/9/15. Jeff noted that Stephen is missing on the 2/9/15 distribution list. Ilona forwarded the information to Stephen. The Low-Level PAHs will be considered today.

Acenaphthene

The study concentration was 71.1 - 654 ug/Kg. The PDF is dated 2-3-15. The current concentration limits are 150 – 1000 ug/Kg. It did pass criteria for fixed limits at 67.7%. It passed the Stdev R^2 Eval > 0.75.

There is an improvement between the current acceptance criteria and this update. Carl would not recommend a fixed limit because other similar compounds will not work with fixed limits. Carl also thought it was safer to not expand the concentration range.

The SOP does not handle convergence specifically, but it does discuss influential points. Points that should be discarded ... should be discarded. Jeff asked if any discarded points are documented. Carl responded that it is clear on the last page of the PDFs. He reviewed the points removed with the subcommittee.

A motion was made by Jeff to leave the concentration limit as 150-1000 ug/Kg for Acenaphthene on the SCM FoPT accreditation table and using the study mean and the new cd coefficients as presented on the PDF file presented by Carl dated 2-3-15. The motion was seconded by Dan and passed unanimously.

Acenaphthylene

The study concentration was 9.5 - 483 ug/Kg. The PDF is dated 2-3-15. The current concentration limits are 150 – 1000 ug/Kg. It did not pass criteria for fixed limits. It passed the Stdev R^2 Eval > 0.75.

There is a considerable improvement in the PT data above 150 ug/Kg. There were a number of outliers due to studies with less than 10 participants and then a few other outliers based on the SOP.

Carl would recommend the new equation.

Andy noted that this analyte is spiked at 167 ug/Kg with an average recovery of 74% and control limits of 39-109%. It is not in Stacey's current spike mix.

Jeff noted that the analyte is very susceptible to oxidation and this is why there are issues in the data. The limits Carl is suggesting will be a lot tighter on the higher concentration end and this will be a problem. He thinks the limits should be left as they are. The current failure rates are fine. This is a bad analyte.

A motion was made by Jeff to leave the concentration limit as 150-1000 ug/Kg for Acenaphthylene on the SCM FoPT accreditation table and retain the current acceptance limits. The motion was seconded by Andy and passed unanimously.

Anthracene and Phenanthrene

The study concentration was 14.8 - 631 ug/Kg for Anthracene and 47.6 – 775 ug/Kg for Phenanthrene. The PDFs are dated 2-3-15 and 2-9-15 respectively. The current concentration limits are 100 – 1000 ug/Kg. It did pass criteria for fixed limits at 55.2% for Anthracene and 57.6% on Phenanthrene. Both passed the Stdev R² Eval > 0.75.

Carl thinks the data is improved and recommends using the new regressions.

Andy noted that his lab statistical limits are 52-114% with an average recovery of 83% on Anthracene and for Phenanthrene he had an average recovery of 80% and control limits of 46-113%. Stacey did not have any data to share.

Carl noted that since the subcommittee is doing study mean, it is more difficult to assess fixed limits. Though it passed fixed limit criteria – Carl would need to do a check on the “d” value. If a fixed limit were suggested, Carl would recommend +/- 60%. Most preferred the equation instead.

Jeff thought both of the equations were very similar and the c&d looked great.

Andy noted that the recoveries for Phenanthrene are much better than for Anthracene. He was curious if they were different studies – but Jeff and Carl did not think so.

A motion was made by Dan to leave the concentration limits as 100-1000 ug/Kg for Anthracene and Phenanthrene on the SCM FoPT accreditation table and using the study mean and the new cd coefficients as presented on the PDF files presented by Carl dated 2-3-15 (Anthracene) and 2-9-15 (Phenanthrene). The motion was seconded by Jeff and passed unanimously.

Benzo(a)anthracene and Chrysene

The study concentration was 30-341 ug/Kg for Benzo(a)anthracene and 40.9-365 ug/Kg for Chrysene. The PDFs are dated 2-9-15. The current concentration limits are 50 – 500 ug/Kg. Benzo(a)anthracene did not pass criteria for fixed limits and Chrysene did pass fixed limit criteria at 56.5%. They passed the Stdev R² Eval > 0.75.

Carl had to look at the data carefully. He saw convergence and had to work with the data closely. He had to work to eliminate the negative “d” value for Chrysene. Benzo(a)anthracene was easier to work with. Outliers were removed as per the SOP and no convergence was seen.

Andy noted that his lab statistical limits are 47-126% with an average recovery of 87% for Benzo(a)anthracene. Andy’s limits for Chrysene are 50-124% with an average recovery of

80%. Jeff asked if Andy could send the information to Carl so it can be included in the Excel spreadsheet. He will do this.

Jeff thinks the new equations are consistent with Andy's limits and the water limits.

A motion was made by Jeff to leave the concentration limit as 50-500 ug/Kg for Benzo(a)anthracene and Chrysene on the SCM FoPT accreditation table using the study mean and the new cd coefficients as presented on the PDF files presented by Carl dated 2-9-15. The motion was seconded by Dan and passed unanimously.

Fluoranthene and Pyrene

The study concentration was 46.6 - 657 ug/Kg for Fluoranthene and 50.8 - 365 ug/Kg for Pyrene. The PDFs are dated 2-9-15. The current concentration limits are 50 - 500 ug/Kg for Pyrene and 100-1000 ug/Kg for Fluoranthene. Fluorene did pass criteria for fixed limits at 65.1% and Pyrene did pass fixed limit criteria at 54.5%. They passed the Stdev R^2 Eval > 0.75.

Andy noted that his lab statistical limits are 55-118% with an average recovery of 87% for Fluoranthene. Andy's limits for Pyrene are 54-124% with an average recovery of 89%. Stacey's limits for Pyrene are 66-108% with an average recovery of 78%.

Carl commented that he did not know why there was such a difference in concentration. Jeff noted that the ones at 150 to 1000 ug/Kg are definitely done by UV. We didn't have data down to 50 ug/Kg for the ones posted as 100 - 1000 ug/Kg. They were fluorescence. Jeff commented if much of the data is fluorescence, the value could be lower.

Discussion on these compounds will be continued at the next meeting.

3. Action Items

See action item table in attachments.

4. New Business

- None.

5. Next Meeting

The next meeting of the Chemistry FoPT Subcommittee has been scheduled for March 10, 2015

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

The call was ended at 1:30 pm EST. (Motion: Jeff Second: Andy Unanimously approved.)

Attachment A

Participants TNI Chemistry FoPT Subcommittee

Members	Affiliation	Contact Information
Carl Kircher, Chair Present	Florida DOH	carl_kircher@doh.state.fl.us
Joe Morotti Present	Sigma-Aldrich RTC	Joe.morotti@sial.com
Melanie Ollila Absent	Pace Analytical Services, Inc.	MOllila@pacelabs.com
Jeff Lowry Present	Phenova	JeffL@phenova.com
Stephen Arpie Absent	Absolute Standards, Inc.	stephenarpie@mac.com
Dan Dickinson Present	New York, DOH	daniel.dickinson@health.ny.gov
Stacey Fry Present	E.S. BABCOCK & Sons, Inc.	sfry@babcocklabs.com
Joe Pardue Absent	Pro2Serve, Inc.	423-337-3121 joe_pardue@charter.net
Dr. Andy Valkenburg Present	Energy Laboratories, Inc.	avalkenburg@energylab.com 406-869-6254
Ilona Taunton, Program Administrator Present	TNI	Ilona.taunton@nelac-institute.org 828-712-9242

Attachment B

Action Items – Chemistry FoPT Subcommittee

	Action Item	Who	Expected Completion	Actual Completion
116	Look at 7-15-14 minutes and let Ilona know what the correct limits are for the analytes looked at that day.	Carl	11/11/14	2/24/15 Completed
119	Use new PCB in Oil regression equation on historical data to confirm there is no substantial increase in failure rates.	Joe, Dan, Stephen, Jeff	2-26-15	

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	
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