SUMMARY OF THE
TNI CHEMISTRY EXPERT COMMITTEE MEETING

JUNE 24, 2016

The Committee held a conference call on Friday, June 24, 2016, at 2:00 pm EST. Chair Richard Burrows led the meeting.

1 – Roll call

Richard Burrows, Test America (Lab)	Present
Francoise Chauvin, NYC DEP (Lab)	Present
Brooke Connor (Other)	Present
Eric Davis, Austin Water Utility (Lab)	Present
Anand Mudambi, USEPA (Other)	Present
John Phillips, Ford Motor Co. (Other)	Absent
Scott Siders, PDC Labs (Lab)	Present
Valerie Slaven, Teklab (Lab)	Absent
Gary Ward, OR DPH (Accreditation Body)	Absent
Gale Warren, NYSDOH (Accreditation Body)	Present
Colin Wright, Florida DEP (Lab)	Present
Ken Jackson, Program Administrator	Present

Associate Committee Member present: Reed Jeffery.

2 – Previous Minutes

It was moved by Anand and seconded by Brooke to approve the minutes of May 27, 2016. All were in favor.

3 – LASEC Comments on Detection/Quantitation Guidance

The Laboratory Accreditation System Executive Committee (LASEC), after reviewing the draft guidance on LOD/LOQ, had submitted the comments and suggestions in Appendix A.

Richard said he would prepare a flow diagram, as requested. The committee did not agree with all the LASEC examples of when an MDL is not required. Gravimetric and titrimetric methods do have variability at zero concentration, and MDL is required in at least one gravimetric method. It was agreed an MDL would not be appropriate for all gravimetric methods, but an MDL based on blanks can usually be determined. Richard said he would tell LASEC what language would be in the published MDL procedure. Colin noted that "color" should be limited to comparator tests and should not be used to include molecular spectrophotometric methods where an MDL can be done. Regarding the question on Section 1.5.2.1.2; i.e., what should be done pending a new MDL study within 30 days, it would be explained the laboratory should continue to use its existing MDL until the new one had been done. On the question on Section 1.5.2.3, it would be explained that verification was required in any quarter in which samples are run, but there must be at least seven in the year. That would be clarified. Francoise suggested adding what requirements have been dropped compared with the current MDL and LOQ

procedures. She said she would send some specific comments to Richard. Scott recommended adding why the changes would help a laboratory's clients. Francoise and Scott volunteered to edit the guidance document.

Richard would draft a response to the LASEC comments, and he would also supply an introductory paragraph to explain the rationale.

4 – Summary of Changes Document

The Committee had been asked to produce a summary document, as required in SOP 2-100 V2, Section 5.7.2, which states: "Accompanying the standard will be a form including an overview of the standard; and if the standard is a revision of a previous standard, an explanation of each change, why it was made, and how it has improved the standard." Brooke volunteered to work on this. She would prepare a summary of the substantive changes if someone would help her with the rationale. Richard said he or another would do this.

5 – PowerPoint Slides on the 2016 Standard

Richard thanked Brooke for putting this presentation together. It would be presented over 2 – 2.5 hours at the Environmental Measurement Symposium in August. The authors were asked to review their sections and send their contact information to Brooke.

6 – Next Call

The committee would hold a short call (30 minutes) on July 8 to make sure the following action items were on track: response to LASEC (Richard); summary of changes (Brooke); MDL/LOQ guidance (Richard); review of PowerPoint slides (authors).

7 – Adjournment

The meeting was adjourned at 3:00 pm EST.

Appendix A

LASEC **Requests for Inclusion in LOD/LOQ Guidance**

We do recommend developing a flow diagram that will show the process. For example, reading through the document, it is tough to picture exactly how everything is to flow, for example the one path for MDL and another one for LOQ noting where the initial and continuing checks fall and basics about how they are performed and analyzed (per instrument, etc.)

The guidance should explain how the decision about when an MDL is not necessary should be made. Not in examples (which tend to become requirements) but maybe a decision tree about how an MDL is not practical if any of the assumptions or conditions of the procedure are not met. An example, based on the most used process in 40CFR Part 136 Appendix B, follows:

> All gravimetric and titrimetric tests – *reason* – there is no variability at zero concentration so the assumption that the variability at a low level concentration mimics that of zero concentration is not met.
>
> All gravimetric tests – *reason* – the measurement device, the balance, is not calibrated using solutions of known concentration of analyte. They are calibrate using standard weights.
>
> All tests using senses (known as organo-leptic tests) – *reason* - the measurement device (nose, eyes, tongue) cannot be calibrated and the variability of one "device" is not mimicked by another.
>
> pH is the unique case here simply because there is no such thing as a zero concentration. Pure water has an H^+ concentration of 10^{-7} or a pH of 7. A pH of zero represents 10^0 or 1 mole concentration something definitely not zero and the log of 0 is infinity.

It would be helpful if the guidance can address the following questions:

> *1.5.2.1.2 In the event that verification fails, the laboratory shall perform a new MDL study within 30 calendar days.*
>
> Or what? Can samples be run within this 30 day window. Should it say 'shall be performed prior to samples being analyzed"?
>
> *1.5.2.3 If no analysis was performed in a given year the verification of the MDL/LOQ is not required, but a new initial MDL/LOQ verification shall be performed prior to analysis of client samples*
>
> Will there be guidance for the situations in which samples were only run once or twice during the year?

Please note that LASEC did not consider whether technical edits to the standard could resolve the need for guidance on these issues, but if Chemistry Expert Committee considers that approach to be preferable, we would surely consider having these points clarified that way rather than in the guidance itself.