SUMMARY OF THE
TNI CHEMISTRY EXPERT COMMITTEE MEETING

MAY 31, 2013

The Committee held a conference call on Friday, May 31, 2013, at 2:00 pm EDT.

1 – Roll call

Richard Burrows, Test America (Lab)	Present
Francoise Chauvin, NYC DEP (Lab)	Present
Brooke Connor, USGS (Other)	Absent
Dan Dickinson, NYSDOH (Accreditation Body)	Present
Tim Fitzpatrick, Florida DEP (Lab)	Present
Nancy Grams, Advanced Earth Technologists, Inc. (Other)	Absent
Anand Mudambi, USEPA (Other)	Present
John Phillips, Ford Motor Co., (Other)	Absent
Lee Wolf, Columbia Analytical Services (Lab)	Absent
Ken Jackson, Program Administrator	Present

Associate Committee Members present: Lynn Boysen; Arthur Denny; Mandi Edwards; Chung-Rei Mao; Diana Shannon

2 – Previous Minutes

Although a quorum was present, two members indicated they would have to abstain from voting on the May 10, 2013 minutes because they were absent that day. Therefore, the draft minutes were not voted on.

3 – Richard's conversation with EPA OW staff

Richard said he had described the committee's work on the MDL document, explaining that adjustments were being made without a complete change to the procedure. The EPA OW staff responded favorably, suggesting a few minor adjustments that Richard had now incorporated into the latest version.

4 – Method Detection Limit Procedure

The Committee worked through the latest draft of the MDL document that Richard had circulated the previous day.

Definition

The sentence had been changed by adding "results from" to read:

"The method detection limit (MDL) is defined as the minimum measured concentration of a substance that can be reported with 99% confidence that the measured concentration can be distinguished from results from method blanks." However, Tim felt this wording was awkward and it was agreed to replace the last 8 words with "..is distinguishable from method blank results".

Scope and Application

Tim was concerned over the last sentence of the second paragraph ("Results above the MDL are judged to have a low probability of false positives."). He thought this might be misinterpreted. He argued if the true value is below the MDL but close to it, there may be a high probability of false positives. After some discussion it was decided to delete that sentence. On Chung-Rei's suggestion the second sentence of this paragraph was modified by adding "..at or.." to read "A result below the MDL is judged to be qualitatively unreliable while a result at or above the MDL is judged to be qualitatively reliable."

Procedure Sections 1 and 2

In the three places where "detection limit" appeared it was changed to "MDL".

Procedure Section 4

For consistency within the sentence, the second appearance of "standard deviation" was changed to "sample standard deviation"

Procedure Section 6 b, i, ii, and iii

This should refer to method blanks for individual analytes, and not for all analytes in the method. Therefore, "individual analyte" was inserted into each sentence.

Procedure Section 6 b

It was clarified that the MDL_b is the method detection limit based on blanks, as opposed to MDL_s. Tim suggested putting the "MDL based on method blanks", since the wording "method detection limit' has been removed elsewhere.

Procedure Section 6 d

Reference to LLOQ was removed and the sentence was changed to "Evaluate the spiking level: If any result for any individual analyte from the spiked blank samples does not meet the method qualitative identification criteria and provide a positive numerical result, then the MDL must be repeated at a higher spiking level."

Procedure Section 7 a

Chung-Rei felt the second sentence was unclear, since 5% of the analytes refers to 5% of the results for any individual spiked analyte, and does not mean 5% of the total number of analytes in the sample. On further discussion, however, it was decided to delete this sentence because it does not fit in this section on on-going data collection. Francoise was concerned that the original intent of the sentence was to require some action that would avoid having the wrong MDL for a year before it is checked. Richard suggested a footnote to recommend adjusting the spiking level in the event of serious problems with non-detects.

Procedure Section 7 b

It was clarified that only data with the same spiking level was to be included.

Procedure Section 7 c

There had been concern that "within a factor of 3" of the existing MDL" was not clear, so it was changed to read "within 1/3 to 3 times the existing MDL". The OW people did not like the term "false positive rate in the method blanks", so it was changed to "rate of detections in the method blanks above the MDL". The modified sentence thus read "If the recalculated MDL is within 1/3 to 3 times the existing MDL and the rate of detections in the method blanks above the MDL is less than 2% the MDL may optionally be left unchanged". In response to a request for clarification by Anand, "then" was inserted after "2%". Also, Richard clarified that 2% means 2% of the total number of blanks. Tim suggested re-wording to " if less than 2% of the method blanks are above the MDL then the MDL may optionally be left unchanged. There was discussion on whether 2% would be too tight, and Richard added a note to that effect. Tim suggested asking Brooke for data that may show if 2% is appropriate and not too tight. Francoise was concerned that the need for data collection may be too difficult for laboratories that do not have a LIMS system, but Richard suggested they may have to put their method blanks into a spreadsheet to track them. He added that laboratories without LIMS may not be processing many samples anyway.

Addendum. Determination of the MDL for a specific sample matrix

In the first sentence, Chung-Rei had suggested referring to "native" instead of "background" concentration. This was to differentiate from "background sample matrices" also referred to in this addendum. It was agreed to make this change.

There was then language describing action to be taken for different signal-to-noise scenarios. Chung-Rei had re-written this to separate the three scenarios in bullet form. It was agreed this would be clearer and Chung-Rei's language was approved except in his first bullet he had referred to action taken if the signal-to-noise ratio was "in the region 5 – 10". The committee changed this to "approximately 10"; i.e., a level at which there is a good chance of detection.

Richard emphasized that the MDL_b must also be calculated, and uses reagent blanks, not the sample matrix. This was also added.

5 – Adjournment

The meeting was adjourned at 3:30 pm EDT. The next call was scheduled on June 14, 2:00 – 3:30 EDT.

LIST OF ACTION ITEMS TO BE COMPLETED

Item No.	Date Proposed	Action	Assigned to:	To be Completed by:
1	1/31/12	Add a definition of Reporting Limit or Quantitation limit to the standard.	Committee	Defer to quantitation sections
2	1/31/12	Continue to consider the concept of routine low-level QC in the standard.	Committee	Ongoing
3	1/31/12	Review Sections 1.5 and 1.6 of the 2009 standard's chemistry module to determine if current calibration requirements are adequate.	Committee	Not determined
4	1/31/12	Spacing of calibration standards will be considered for the guidance document.	Committee	Ongoing
5	2/17/12	Draft language for items in the calibration standard	Richard (Items 1 and 2) Anand (Item 3) Nancy (Item 5) Anand and Francoise (Item 6) Tim (Item 11)	Complete
6	2/17/12	Review Volume 1 Module 4 of the 2009 standard to identify any inconsistencies with the new language	All Committee Members	Complete
7	3/2/12	Add 1-2 sentences under the header 1.7.1 to explain that method is also included in calibration.	John	Complete
8	3/2/12	Clean up the parts of Section 1.7.1 referring to initial calibration and the parts referring to continuing calibration.	Committee	Complete
9	3/2/12	Add criteria for rejection of calibration standards to the guidance document.	Committee	Not determined

Item No.	Date Proposed	Action	Assigned to:	To be Completed by:
10	3/2/12	Add to the guidance document discussion of analysts using the most recent calibration rather than choosing which of 2 or more curves to use.	Committee	Complete (done in the standard)
11	3/2/12	Include a paragraph in the standard that addresses a single-point calibration for P/A testing.	Committee	Complete
12	3/30/12	Check the language does not contradict the existing standard regarding meeting method requirements vs. standard requirements for calibration.	Committee	Not determined
13	3/30/12	Sections 1.7.1.1 j and k will be modified further as a result of the March 30 discussions.	Anand and Francoise	Complete
14	3/30/12	Have the guidance document consider orders of magnitude in deciding the minimum number of standards, and keep a placeholder in Section 1.7.1 to refer to it.	Committee	Not determined
15	3/30/12	Add a definition for threshold testing	Committee	Not determined
16	3/30/12	Richard's, John's and Anand's March 30 changes will be incorporated into a single document.	Ken	Complete
17	5/4/12	Add to the guidance document that Section 1.7.1.1 (g) requirements should also be applicable for average response, when you evaluate with the RSD, and that is	Committee	Not determined

Item No.	Date Proposed	Action	Assigned to:	To be Completed by:
		numerically the same value as the RSE.		
18	5/4/12	Discuss in the guidance document how to check quarterly (ref. Section 1.7.1.1 (j) (i).	Committee	Not determined
19	6/1/12	Bullet points will be drafted for a proposed PowerPoint presentation	Brooke, Richard, Tim, Francoise, Anand	Complete
20	6/1/12	Bullet points will be drafted for a slide that will describe the items to be discussed in the guidance document.	John	Complete
21	7/20/12	Explain in the guidance document the difference between MDL and the true detection limit.	Committee	Not determined
22	10/5/12	A note will be appended to the draft language of Section 1.7.1.1 n until the CCV language has been written.	Anand	Complete
23	11/2/12	For the MDL document, language will be drafted in the scope to limit the use.	John	Complete
24	11/2/12	In the Scope and Application section of the edited MDL document, the sentence "To accomplish this, the procedure was made device- or instrument-independent." Will be re-worked.	John	Complete
25	11/30/12	A letter will be drafted to the EPA OW, asking what kind of stakeholder composition they want ELAB to put together for reviewing the modified MDL procedure.	John	Complete

Item No.	Date Proposed	Action	Assigned to:	To be Completed by:
26	2/1/13	In the calibration standard Sections 1.7.1.1 (h) i and 1.71.1 (k) i, revisit the suggestion to replace LOQ with “lowest concentration for which quantitative data are to be reported”if LOQ is re-defined.	Committee	Not determined
27	2/15/13	Check on travel funding for face-to-face meeting	Ken	Complete