

**Summary of Technical Assistance
Detection and Quantitation Guidance Document Sub-Committee Meeting
November 6, 2009**

1. Roll Call: Subcommittee chair, Richard Burrows called the meeting to order at 1:00 PM EDT. Subcommittee members present included Richard Burrows, Brooke Connor, Jack Farrell and Prabha Acharya. Subcommittee members not present included Betsy Kent, Rock Vitale, Bob Di Rienzo and Marlene Moore. Carol Batterton was present as TNI staff support.
2. Approval of minutes: Minutes from the last meeting (10-23-09) were reviewed and approved.
3. Suggested procedures for verifying LOQ

Richard sent suggested procedures for verifying LOQ by email prior to the meeting. The text of his email is pasted below with comments noted in red.

Suggested procedures for LOQ

These suggested procedures are compliant with the NELAC and TNI standards, and also provide a dataset suitable for several Quantitation limit protocols, including:

Detection/Quantitation Federal Advisory Committee procedure
Office of Water MRL
Texas PQL
DoD QSM v4.1

Richard noted that there is a lot of agreement within existing procedures.

DETERMINATION OF THE QUANTITATION LIMIT

1. Select the level that you want to report as your Quantitation Limit. This level may be based on project requirements, or it may be the best estimate based on experience. It should be at least 2X the LOD, if an LOD has been determined.
2. Analyze one clean matrix sample spiked at this level. [It was noted that this is a blank that goes through prep.]
3. Check that the results from the analysis meet the following requirements:
Meets any qualitative identification criteria
Result is > LOD (if LOD is not being used, check that result is > Mean blank + 3 times standard deviation of blank. It was suggested that this step include a minimum number of blanks and that mean recovery be specified up front.

4. If all requirements are met, analyze 6 additional samples. If requirements are not met, repeat the single analysis at a higher concentration.
 - a. If a data set for DQFAC and/or MRL is desired, at least 7 replicates on each instrument are required. At least 8 replicates on each instrument are required for the Texas PQL. Otherwise, analyze at least 2 replicates on each instrument and a total of at least 7 replicates. [note this is a recommended procedure, not a requirement]
 - b. Replicates should not all be analyzed in a single batch – a more representative data set is obtained if the samples are spread over time.
5. If any of the replicates do not meet the qualitative identification criteria, or give results less than the LOQ, then the spiking level is too low and the test needs to be repeated at a higher spiking level.
6. Measure the mean recovery and the standard deviation of the spike results for the finally selected concentration. If these meet the criteria in the method or regulation, then the quantitation limit is established as the spiking level. If requirements are not met, then method improvements or a higher spiking level are necessary. [Move this statement up under # 2.]

VERIFICATION OF THE QUANTITATION LIMIT

1. At least once per quarter, analyze a single spike at the quantitation limit on each instrument.

It was the consensus of the group that with the noted changes and additions, this represented a good approach. It should be clearly noted, however, that this is a suggested, reasonable approach and not a requirement.

4. Brooke's slides

The following comments and suggestions were made on the slides Brooke had prepared:

Definitions

- Slide #5 – Remove the word “flaky” Use “ball park” instead. Consider animation with numbers jumping around.
- Slide # 7 – Place the words “I see” a little further down on page
- Slide #14 – Add the words “and verifies” after “decides”

Requirements for LOD

- Slide #2 – add “unless required by method or program” as a footnote

- Slide #5 – add “or program” after “test method”
 - Add “TNI LOD verification requirements” to slides 6-10
 - Move Slide #4 “document your procedures....” To the end. Also add language to maintain records, e.g. “Keep your records showing verifications and procedures and have them ready and available for review”
5. Next Meeting: The subcommittee will meet via teleconference on Friday, November 19, 2009, at 12:00 PM CST. The call in number and agenda will be sent prior to the call.

Slides on possible ways to verify LOD will be reviewed at the next meeting.