Radiochemistry Expert Committee (REC)
Meeting Summary

January 15, 2013

1. Roll Call and Minutes:

Bob Shannon, Chair, called the meeting to order at 1 pm EST. Attendance is recorded in Attachment A – there were 8 members present. Associate members present: Terry Romanko, Ariana Mankerian, Ronald Houck, Virgene Mulligan, Yoon Cha and Carl Kircher.

The December 18, 2013 minutes were reviewed. David made a motion to approve the minutes. The motion was seconded by Vas and unanimously approved.

2. Kentucky Meeting

The committee will be meeting for a full day on Tuesday, January 28, 2014 starting at 8 am.

Vas and Keith will need a phone line. Bob will follow up with Nile, Todd and Richard to see if they will be in attendance. Associates members Ariana, Carl and Terry would also like to call-in. Anyone else needing a line should contact Bob or Ilona.

Ilona will set-up the call-in information and send it out next Tuesday.

3. Standard

Revised Text – Section 1.7.1 (e) Backgrounds (Tom, Vas and Bob)

Given the short period of time, Tom only reviewed the changes and asked that people send him comments.

The following changes were reviewed:

Section 1.7.1 e) 1:

Language was added to the first sentence: "Subtraction background measurements are used to determine the background count rate of each detector to be subtracted from the test source, as well as monitor detectors for contaminations, trends, and deviations from Poisson statistics."

Tom noted some further considerations: Need to state that backgrounds are required specific to each detector and method. Define "test source" in the definition section. He is also considering combining i), ii) and iii).

Bob also wanted to be sure that approaches for identifying contributions to the method background in excess of the background of the detection system be included – discussed the concept of blank populations – using an average, estimating uncertainty.

Section 1.7.1. e) 1) iii): Delete language under c) – New background data …

Section 1.7.1. e) 2) – Short Term Background Checks:

Does not the frequency of this check need to be specified similar to the frequency of long term background checks? As currently written, there is no requirement to check the background at any frequency. Thus a lab could measure samples on a GPC for 3 months before discovering that there was an issue with data and results may have been used by customers to make decisions. As such, it may be more important to define a frequency for the check since it is the check that will stop the process if backgrounds change. Some commented that the requirements still seem unclear.

Consider that control charts provide ongoing history and provide assurance that backgrounds will be stable – unless there is a potential issue with contamination. It is not clear, however, how shorter background checks would be used to identify a problem with a sample count of longer duration

Section 1.7.1. e) 2) ii): Question about comparing short term check to background subtraction.

Revised Text – Section 1.7.2.1 and 1.7.2.2 Positive and Negative Controls (Carolyn, and Marty)

Section 1.7.2 – Second Paragraph:
- Third sentence deleted. It will be addressed in the individual subsections.
- Last two sentences. This was considered to be controversial and these sentences could be deleted.

1.7.2.2 b) b): If not blank, the matrix material used to create the LCS needs to be characterized for the analyte of concern.

1.7.2.2. f) c): This section was worked on and alternate language proposals were made:

c. For gamma-ray spectrometry the LCS should be spiked with the as the analyte(s) of interest.
    i. If the radionuclides of interest are not available radionuclides with similar gamma energies as those of the analyte(s) of interest may be used (e.g. ^{133}Ba may be used in place of ^{131}I), or

ii. if gamma-ray spectrometry is used to quantify analyte(s), using an energy/efficiency calibration curve, the LCS may contain gamma-emitting radionuclides that cover the energy range of the radionuclides expected in the gamma-ray spectra (^{241}Am, ^{137}Cs, and ^{60}Co are often used for this purpose).

(Note: Bob asked if the term "bracket" should be used instead of "cover". Taken under consideration.)

ALTERNATE TO c:

c. Where a non-destructive gamma-ray spectrometry measurement is made and the efficiency determined using an energy/efficiency calibration curve that covers the energy range of the analyte(s) of interest:

i. a radionuclide with similar gamma energies as those of the analyte(s) of interest may be used (e.g., ^{133}Ba may be used in place of ^{131}I), or

ii. the LCS shall contain gamma-emitting radionuclides that cover the energy range of the radionuclides expected in the gamma-ray spectra (^{241}Am, ^{137}Cs, and ^{60}Co are often used for this purpose).

ALTERNATE to ii:

ii. the LCS shall contain gamma-emitting radionuclides that represent the low (e.g., ^{241}Am), medium (e.g., ^{137}Cs) and high (e.g., ^{60}Co) energy range of the analyzed gamma-ray spectra. As indicated by these examples, the nuclides need not exactly bracket the calibration energy range or the range over which radionuclides are identified and quantified.

Carolyn will work on language and this will be discussed more thoroughly in Louisville, KY.

Section 1.7.2.3 (Nile and Vas)

The preliminary changes were distributed by Bob on 1/13/14. The updates were reviewed and discussed with the following main comments:

Section 1.7.2.3 a) v): Spiking LCS and MS at the same activity reduces the number of variables. It is more obvious when there is a matrix effect.

Section 1.7.2.3 b) ii): Consideration should be given to specifying frequency and making a statement that any of these measures would be acceptable. Gamma spectrometry should also be addressed – what is required and not required.

Section 1.7.2.3 c) Second sentence: Consider that there may not be any tracers that do not introduce bias. Require that the final result be corrected/unbiased or provide for an exception.

4. Action Items

   A summary of action items can be found in Attachment B.

5. Next Meeting and Close

   The next meeting is scheduled for Tuesday, January 28, 2013 at 8am EST in Louisville, KY. This will be an all day meeting.

   A summary of action items and backburner/reminder items can be found in Attachment B and C.

   The meeting was adjourned and ended at 3:01 pm EST.

Attachment A
Participants
Radiochemistry Expert Committee

Members	Affiliation		Contact Information	
			Phone	Email
Bob Shannon (Chair) **Present**	QRS, LLC Grand Marais, MN	Other	218-387-1100	BobShannon@boreal.org
Tom Semkow (Vice Chair) **Present**	Wadsworth Center, NY State DOH Albany, NY	AB	518-474-6071	tms15@health.state.ny.us
Sreenivas (Vas) Komanduri **Present**	State of NJ Department of Environmental Protection Trenton, NJ	AB	609-984-0855	Sreenivas.Komanduri@dep.state.nj.us
Marty Johnson **Present**	US Army Aviation and Missile Command Nuclear Counting Redstone Arsenal, AL	Lab	865-712-0275	Mjohnson@tSC-tn.com
Dave Fauth **Present**	Consultant Aiken, SC	Other	803-649-5268	dj1fauth@bellsouth.net
Carolyn Wong **Present**	Lawrence Livermore National Laboratory Livermore, CA	Lab	925-422-0398	wong65@llnl.gov
Keith McCroan **Present**	US EPA ORIA NAREL, Montgomery AL	Lab	334-270-3418	mccroan.keith@epa.gov
Todd Hardt **Absent**	Pro2Serve, Inc. Oak Ridge, TN	Other	865-241-6780	HardtTL@oro.doe.gov
Nile Ludtke **Absent**	Dade-Moeller and Associates Oak Ridge, TN	Other	865-481-6050	nile.luedtke@moellerinc.com
Larry Penfold **Present**	Test America Laboratories, Inc; Arvada, CO	Lab	303-736-0119	larry.penfold@testamericainc.com
Richard Sheibley **Absent**	Sheibley Consulting, LLC	Other (Former AB)	651-485-1875	RHSHEIB111@yahoo.com
Ilona Taunton (Program Administrator) **Present**	The NELAC Institute	n/a	828-712-9242	Ilona.taunton@nelac-institute.org

Attachment B
Action Items – REC

	Action Item	Who	Target Completion	Actual Completion
29	Continue update to Section 1.7.2 as per comments from 11/20/13 meeting.	Carolyn Marty	12/17/13	To be continued at 1/15/13 meeting. Complete
31	Update language for e) 1) vi).	Keith	1/13/13	To be continued at 1/28/13 meeting.
32	Consider discussion on 1.7.1 e) and f) at 12/18/13 meeting and be prepared for further discussion.	All	1/15/13	Complete

Attachment C – Back Burner / Reminders

	Item	Meeting Reference	Comments
1	Update charter in October 2014	n/a	
2	Issue of noting modifications to methods.	1/16/13	
3	Look at batching when QC is looked at.	1/16/13	Completed 1/28/14
4	Look at need to reference year for any standard references– which version is being referenced. Is this necessary?	5/22/13	