

**Radiochemistry Expert Committee (REC)
Meeting Summary**

December 18, 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, Joe Pardue, Ronald Houck and Carl Kircher.

The November 20, 2013 minutes will be sent out for review and approval by email. Bob would like to do this by early next week.

Update: Final vote by e-mail: For – 8 Against – 0 Abstain or No Vote: 3. The minutes were approved for posting.

Associate members need to let Bob and Ilona know they own a copy of ISO 17025 so they can be included in distributions of the draft working standard updates.

2. Kentucky Meeting

Bob shared the schedule and let people know that they will be meeting all day instead of a half day on Tuesday.

He reminded people that need financial assistance to get in touch with him for an application.

3. Standard

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

The numbering should be ignored because this will be corrected in the final document.

Carolyn raised concerns about Section e) 1) i) because of changes being proposed to Section 1.7.2. After discussion, Bob deleted the last part of the paragraph and Section e) 1) i) now reads: Background subtraction measurements are used to determine the background count rate of each detector.

A comment made regarding this section is to develop language that accommodates an empty chamber or a perfect match to the test source.

e) 1) ii) and iii): Tom noted that ii) deals with the sources of background and iii) deals with the types of background. Tom also pointed out that the section ends with the words “as identified”, so it is only necessary if it is identified.

There was some discussion of whether the term “shall” should be changed. Terry was concerned that the text intends for a lab to have different backgrounds for every different method. A reagent would need to be checked on all available detectors too and then averaged? Tom said the intent was to study all the backgrounds, but they might not all be included. He is concerned it is being over thought. Bob asked if it is OK to have a biased method? The issue of new lots of reagents was also raised. Marty noted that historical checks of vendors should suffice to determine if there is an issue with radioactivity. If something suddenly changed for the vendor, it would be caught in a method blank and then the reagent could be re-evaluated. A new background count would need to be done on the reagent.

Tom thought adding some specific examples to ii) might help the issue. Carolyn thought the term “naturally occurring radioactive materials” should be included.

Conclusion: The committee should continue to consider the issue about having to do background specific to each detector and method. The committee should also consider the need to combine sections i), ii) and iii).

Carolyn noted that method blanks are discussed in the section she has been working on.

e) 1) iv): Marty is concerned there are ANSI standards requiring something different than iv) and v). In the gas proportional, the background subtraction should be 10 times your sample count time. No one recalled anything similar in ASTM. Tom noted that the language proposed in our standard does not prevent someone from counting it longer, so there is no conflict with the ANSI requirements.

e) 1) v): Carolyn commented that the gas-proportional detector requirement would allow her to do a 10 minute measurement once per quarter. She felt this would be in conflict with best laboratory practice considering they do 10,000 samples per quarter. She thinks the standard should require more based on number of samples. Tom commented that the text should include “representative measure of the background rate”. This will be added.

Ariana pointed out that a minimum frequency for the background measurement is given, but this is not done with short-term background checks.

Carolyn pointed out that for alpha-beta counting systems, an item needs to be added to accommodate solid state detectors used for alpha/beta counting (e.g., I-matic type detectors).

Comment regarding v) b) v): This is a first run at fixing the problem we had in the calibration section with "scintillation detectors". This, I believe, differentiates between

spectrometry and single channel analysis - e.g., NaI, plastic, Zn(Ag)S, etc. We still need to address Rn analysis using alpha scintillation cells.

e) 1) vi): After discussion and review the following comments were captured for this section:

- Tom was concerned about the MARLAP reference because it may not be applicable to the type of data that is being collected. That is might not be the best approach and suggested the dispersion coefficient. The reference to MARLAP is not a requirement. Note that Keith looked at the two approaches after the call and concluded that the two by and large equivalent. Tom and Keith agreed that the proposed MARLAP reference would be acceptable.
- Consider removing this section in lieu of section vii) or integrating additional concepts into vii)? vi) could be a subsection of vii)?

The current language only discusses doing trend analysis, but there is no additional information. Keith commented that there is no document available to describe how to do this. A background check is required, but there is no discussion on what to do with it.

Carolyn pointed out that vii) may cover some of this and should be considered if new language is being developed for vi). Bob thought removing vi) would leave vii) to cover the topic. Vas was concerned that new background data should be considered separately from on-going and that is why there is a vi) and vii).

e) 1) vii) and viii): No comments were made.

e) 2) i): This is really information or a framing statement. It should not be numbered i) and ii) should become i).

e) 2) ii): After discussion and review the following summary comments were made regarding the last sentence:

- Currently difficult to determine what the requirement is. It needs to be written more clearly. Consider that control charts provide history and provide assurance that backgrounds will be stable – unless there is a potential issue with contamination. Process control needs to be considered.
- Short term check needs to be compared to background subtraction. What are frequencies and durations?

Should this be left to the laboratories to decide what level of risk they are willing to take with the data? Or should this standard give some minimum levels? Marty noted that frequency depends on the stability of the counter. This is an issue surrounding the topic of process control.

Vas thinks short term background checks are a sanity check. He feels they should be a requirement and they are already run in most laboratories. Others felt a short count can't show there is a significant difference in the background that will impact sample results. The duration of the count needs to be sufficient to detect something.

The discussion turned again to a laboratory's willingness to accept risk. For example, it would be good practice for a lab to look at potential contamination after a highly contaminated sample is run. Running a short term check would be good practice. Should something like this be a requirement in the standard or should it be left to the lab to determine their practice and level of risk. Terry commented that there are other standards that do include requirements to this level of detail.

Tom noted there are other methods to check for contamination other than running a short term background check and that is why there were no frequencies or requirements stated in the text.

e) 2) iii) – v): Relates to previous conversation.

f): Relates to previous conversation.

Tom also agreed to make changes to the text of this section for the next meeting.

The topics discussed today are very difficult to come to conclusions on. Many people have avoided these conversations in the past. Bob would like everyone to think about the discussions and these topics will be approached again at the next meeting.

Revised Text – Section 1.7.2 (Carolyn, Marty and Bob)

Carolyn and Marty had a discussion with a DoD laboratory who make a distinction between things they need to do chemistry on and things you don't need to do chemistry on. They don't see a need for method blanks on things you don't do chemistry on. Doing gross alpha/beta on an air filter would not require a method blank. Bob noted this is a single lab in the DoD that had this opinion – and it does not represent all labs. Bob pointed out that you do not have to do chemistry to contaminate a sample.

Marty asked if people could use a couple of blank filters that they run after a certain number of samples. Carolyn described how the analysis is set-up at her laboratory and that it would be difficult to do this do to the way they have programmed their system. What kind of QC should be done with a batch of 100 samples? Bob suggested that a blank sample could be set-up in the queue instead of having to pull a sample and putting in a blank - perhaps every 20 samples. Vas pointed out that commercial labs and government labs may look at QC frequency differently due to costs, but we should not be looking at this while updating the standard. Marty noted that DoE requires that quality control samples (including blanks) be prepared using random glassware each time – and that using the same glassware each time would be problematic.

Carolyn pointed out section 1.7.2.2 j) that was highlighted in the text sent to committee members. This text was updated and she requested comments from the committee. Marty thought what was written was fine because it is not a hard requirement. The text “to be spiked” was replaced with “should contain”.

This document will be updated after the call and discussed further at the next meeting.

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 Wednesday, January 15, 2014 at 1pm EST. This is a change due to the holidays and Kentucky 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 3:02 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 Present	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 Absent	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
3	Richard will prepare language update for 1.5.3 and submit to committee.	Richard	2-26-13	Complete
10	Prepare definition for “activity” based on today’s conversation.	Bob	5/22/13	Complete
11	Complete and distribute language proposed for 1.7.1.	Bob Tom Vas	Last Meeting	Complete
21	Work on presentation of blanks in the module.	Carolyn Marty	8/28/13	Complete
23	Propose final language to define Test Source.	Bob, Tom, Vas	10/15/13	Complete
24	Capture background averaging of counts discussion and attempt to add to standard. Send draft language before next meeting.	Keith	10/15/13	Complete
28	Update 1.7.1 e) and f) before the next meeting.	Tom	11/19/13	Complete
29	Continue update to Section 1.7.2 as per comments from 11/20/13 meeting.	Carolyn Marty	12/17/13	Continue at 1/15/13 meeting
31	Update language for e) 1) vi).	Keith	1/13/13	
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	Continue at 1/15/13 meeting.

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	
4	Look at need to reference year for any standard references– which version is being referenced. Is this necessary?	5/22/13	