Radiochemistry Expert Committee (REC)
Meeting Summary

September 28, 2022

1. Roll Call and Minutes:

Terry Romanko, Chair, called the meeting to order at 1pm Eastern on September 28, 2022 by teleconference. Attendance is recorded in Attachment A – there were 10 members present. Associate members in attendance: Keith McCroan, Bob Shannon and Carl Kircher.

2. Committee Vice-Chair

Amanda volunteered to fill the Vice-Chair roll.

Greg nominated Amanda. There was no further discussion.

A motion was made by Greg to have Amanda fill the Vice-Chair of the Radiochemistry Committee. The motion was seconded by Stan and unanimously approved.

3. SIR 441

SIR 441 to Radiochemistry, August 30, 2022

Standard	2016 TNI Standard
Volume and Module (eg. V1M2)	V1M6
Section (eg. C.4.1.7.4)	1.7.2.4(b)

Describe the problem:
Section 1.7.2.4b in TNI Standard V1M6 is not clear in regard to whether samples with levels of activity (below three (3) times the MDA) are appropriate for use as MD as a measure of precision when the target analyte is not present.
According to Section 1.7.2.4b(i), "Duplicate analyses provide a measure of precision when the target analyte is present in the sample chosen for duplication." 1.7.2.4b(iv) states that "When samples have low levels of activity (less than approximately three (3) times the MDA) the laboratory, at its discretion, may analyze MS/MSD to determine reproducibility within a Preparation Batch in place of a MD."
The matrix of our Isotopic Gamma samples is NPW. We currently perform one MD per batch comparing activities for Ru-106, Cs-137 and Zn-65. Ru-106, Cs-137 and Zn-65 are typically undetected in our routine environmental samples. We don't know whether Ru-106, Cs-137 and Zn-65 are absent or present at a low level.

1. Is it acceptable to use the MD as a measure of precision when the analyte is not known to be present?

The Committee read through the information and question and then began discussion to formulate a response.

Comments: See below.

Response:

Yes, it is acceptable to use the MD as a measure of precision when the analyte is not known to be present, as long as acceptance criteria has be established and documented by the laboratory.

A motion was made by Jim to accept the Committee Comments and Response below. The motion was seconded by Chrystal and there was no further discussion. A role call vote was taken:

Terry – For
Amanda – For
Chrutal – For
Greg – For
Jim – For
Keith – For
Sherry – For
Velinda – For
Stan – For
Mary Beth – For
Brian - For

The motion passed unanimously and the following will be sent to Lynn Bradley and the LASEC:

Committee Comments: Section 1.7.2.4.ii states "Acceptance criteria for duplicates shall be established as specified by the method, regulation or contract. **Where there are no mandatory acceptance criteria established in the method, regulation or contract, the laboratory shall develop acceptance criteria based on industry practices and guidelines."**

While the Standard states that the laboratory may analyze MS/MSD "at its discretion" it is not necessary (and generally not recommended for gamma spectrometry samples due to the amount of spike necessary) to run a MS/MSD.

Acceptable and industry standard criteria for low activity samples may be something like the normalized absolute difference (aka DER, duplicate error ratio).

See MARLAP Chapter 18, equation 18.2 for a calculation representative of the normalized absolute difference.

Response:

Yes, it is acceptable to use the MD as a measure of precision when the analyte is not known to be present, as long as acceptance criteria has be established and documented by the laboratory.

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4. New Business

    - None.

5. Action Items

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

6. Next Meeting and Close

    The next meeting will be October 26, 2022 at 1pm Eastern. (Addition: The October and November meetings were canceled and the Committee's next meeting was December 28, 2022 at 1pm Eastern.)

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

    Terry adjourned the meeting at 1:44pm Eastern.

Attachment A
Participants
Radiochemistry Expert Committee

Members	**Affiliation**		**Contact InAffirmativemation**
Terry Romanko Chair (2024) **Present**	TestAmerica Laboratories, Inc.	Lab	Terry.romanko@testamericainc.com
Sherry Faye (2022*) **Present**	Wadsworth Center, NY State DOH Albany, NY	Lab	sherry.faye@health.ny.gov
Velinda Herbert (2024) **Present**	National Analytical Environmental Laboratory	Lab	Herbert.velinda@epa.gov
Brian Miller (2024) **Present**	ERA	Other	bmiller@eraqc.com
Stan Stevens (2023*) **Present**	Perma-Fix Environmental Services	Other	stanws@aol.com
Amanda Fehr (2023*) **Present**	GEL	Lab	amanda.fehr@gel.com
Jim Chambers (2023*) **Present**	Fluor-BWXT Portsmouth LLC	Other	jim.chambers@ports.pppo.gov
Greg Raspanti (2022*) **Present**	New Jersey Department of Environmental Protection	AB	Greg.Raspanti@dep.nj.gov
Chrystal Sheaff (2024*) **Present**	Energy Laboratories, Inc.	Lab	csheaff@energylab.com
Mary Beth Gustafson (2024*) **Present**	Virginia	AB	mary.gustafson@dgs.virginia.gov
Ilona Taunton (Program Administrator) **Present**	The NELAC Institute	n/a	Ilona.taunton@nelac-institute.org

Attachment B

Action Items – REC

	Action Item	Who	Target Completion	Completed
90	Send note about method codes and concerns to the PT Expert Committee. Is there a way to limit the codes a lab can use to report PT data?	Bob	TBD	
116	Place comments into Comments Response Form/Table to prepare for final voting on comments. (SOP-2-100-Rev3.4-CSDP-StandardsDevelopment-ResponsetoCommentsForm)	Terry	9/20/22	
117	Send SIR 441 Response to LASEC.	Terry	10/25/22	

Attachment C – Back Burner / Reminders

	Item	Meeting Reference	Comments
5	Affirmativem subcommittee of experts in MS and other atom counting techniques to see that these techniques are adequately addressed in the radiochemistry module.	9/24/14	
6	From Action Item # 75: Prepare copy of Standard annotated with summary document language.		This is a project Carolyn was working on, but the committee decided it may duplicate the Small Lab Handbook. This project has been put on Hold.

Attachment D.

Module 6 Standard Update - Summary of Suggested Changes - Final (3/24/21) – Additions on 7/27/22

Original Text	Suggested Change	Justification
Section 1.5.3(c) uses the phrase “entire measurement system.” Presumably, this would include all sample preparation and analytical steps.	None.	Yes, Section 1.5.3(c) is a subset of 1.5 (“Method Validation”) which includes all preparation and analysis steps.
Section 1.7.1.1(a) uses the phrase “radiation measurement system.” I am not sure that the “system” would pertain to one particular analytical instrument, one sample-detector combination, or all instruments of a given measurement technique or technology.	None.	In context within 1.7.1.1(a) itself, “system” applies to “produce consistent, comparable results across multiple detectors used for a common method.” Thus, it would apply to whatever radiation measurement system is used for a particular “common” method. This would be true whether the laboratory had only one detector or many detectors associated with the system.
Section 1.7.1.4 uses the phrase “detection system” in several places.	None.	Section 1.7.1.4 is in regard to instrument performance checks (to "measure and track the stability of key detector response-related parameters over time.") As such, it is clear in the context of use that "detection system" relates to the instrument/detector, not to other variables (e.g. method/preparation).
Section 1.7.2.1(b) uses the phrase “analytical system.” (Is this the same as a detection system? Or a radiation measurement system?)	None.	Section 1.7.2.1(b) is a general requirement to “process batch and sample-specific QCs to provide empirical evidence that demonstrates that the analytical system is in control”. Section 1.7.2.1(c) goes on to further detail how this relates to when “sample testing is performed that involves physical or chemical processing which affects the outcome of the test” (c.i) and when “testing is performed that does not involve physical or chemical processing…” (c.ii).

Original Text	Suggested Change	Justification
There is a high degree of specificity in frequency for running a “subtraction background measurement” but not how often a “short-term background check” must be run (except for the liquid scintillation detector). Again, this is an existing standard and assessing to it may not be consistent. I guess, at a minimum, the short-term background checks need to be at least as frequent as subtraction background measurements.	None.	Except for the case of LSC, the Standard leaves the frequency to be defined and documented the laboratory (1.7.1.6.a.i). The risk the laboratory takes by “choosing” a longer duration between short-term background checks is the potential of having to initial corrective action on a large number of samples, possibly leading to qualification or rejection of data (1.7.1.6.c).
The Draft Standard has Section 1.7.2.6(c) subdivided into (i) through (viii), but the Excel file of Expert Committee revisions to the Standard splits (iii) in the Draft Standard into (iii) and (iv). Is this correct, and Section 1.7.2.6(c) should have (i) through (ix) now?	None.	This is correct, and this is how it appears in the version sent.
The Draft Standard has a Section 1.7.1(a) but no 1.7.1(b). Is this by design, so as to put the normative requirement in 1.7.1(a) as different from the 1.7.1 general description?	None.	That is correct. The portion in the first 2 paragraphs of 1.7.1 are descriptive. The portion in a) is prescriptive.