

# **Radiochemistry Expert Committee (REC)**

## **Meeting Summary**

**April 27, 2022**

### **1. Roll Call and Minutes:**

Terry Romanko, Chair, called the meeting to order at 1pm Eastern on April 27, 2022 by teleconference. Attendance is recorded in Attachment A – there were 9 members present. Associate members in attendance: Mark McNeal, Bob Shannon, Carl Kircher and Patrick Garrity.

Meeting minutes are being reviewed by Terry and Robert and then they will be distributed by email for approval.

### **2. Technical Expert Discussion**

Terry displayed the original description the Committee sent to the Quality Management Systems Expert Committee. Discussion/documents from the January San Antonio meeting were distributed by email.

Terry would like committee member thoughts:

- Use courses instead of credit hours.
- Would it be possible for courses to be outside of the college/university?  
Terry tried to add the concept of technical courses.
- Like the change of “32 credit hours” to “8 courses”. Maybe these courses could be TNI classes or other technical classes.
- Like that six years of experience can substitute for 6 courses.
- Assumption is that the AB gets to decide what qualifies as a course.
- Debbie Bond email – a degree can be difficult for international candidates. May remove BS requirement and it can always be added back in. There are “experts” without degrees.
- There are many other laboratories that have multiple technical managers in their lab. You could have technical experts in particular areas of the lab.
- PTs could be used to document proficiency.
- Committee members would like to remove the Bachelor’s degree requirement.
- In the yellow, should be 4 courses. Corrected.
- How do you define what courses are acceptable? Is a manufacturer’s class sufficient? You are taught how to run the instrument, but are you an expert?  
DW still requires a degree and this is probably why ABs don’t want to do away with it. *(Addition: From DW Certification Manual:*

## **10. Other Considerations for Laboratory Certification**

### **10.1 Laboratory Personnel**

*The laboratory should have sufficient supervisory and other personnel, with the necessary education, training, technical knowledge, and experience for their assigned functions.*

### **10.2 Laboratory Director/Manager or Technical Director**

*The laboratory director/manager should be a qualified professional with the technical education and experience, and managerial capability commensurate with the size/type of the laboratory. The laboratory director/manager is ultimately responsible for ensuring that all laboratory personnel have demonstrated proficiency for their assigned functions and that all data reported by the laboratory meet the required quality assurance (QA) criteria and regulatory requirements.*

## **Chapter 4**

### **Critical Elements for Radiochemistry**

#### **1. Personnel**

##### **1.1 Laboratory Supervisor**

*At a minimum, the laboratory supervisor should have a bachelor's degree in chemistry or an equivalent degree, and one year of experience in the measurement of radioactive analytes in drinking water. The laboratory supervisor is required to have a working knowledge of Quality Assurance (QA) and Quality Control (QC) principles and apply it to all radiochemical practices and procedures conducted in his or her laboratory. The laboratory supervisor is responsible for ensuring that all laboratory personnel have demonstrated their ability to satisfactorily perform the analyses to which they are assigned and that all data reported by the laboratory meet the required quality assurance criteria.*

##### **1.2 Laboratory Analyst**

*At a minimum, the laboratory analyst should have a bachelor's degree in chemistry or an equivalent degree, and one year of experience in the measurement of drinking water for radiochemical parameters. If the analyst is responsible for the operation of analytical instrumentation, he or she is required to have completed specialized training offered by the manufacturer, another qualified training facility, or served a period of apprenticeship under an experienced analyst. The duration of this apprenticeship is proportional to the sophistication of the instrument. Completion of this apprenticeship period for instrumentation should be documented and maintained in a training file.)*

- Credit hours are different at different schools. Using courses is an improvement.
- Situations are very risk adverse for ABs right now. Public opinion on qualifications is factored in.
- Need to be sure this is written in a way that the increasing knowledge occurs through time and not all in one year?

There was a lot of discussion on how to work with the language.

After discussion, the Committee is looking at presenting the following:

- a) Any technical expert of an accredited environmental laboratory engaged in radiological analysis shall be a person:
  - i. with 8 college and/or equivalent technical courses in any combination of chemistry and/or physics; and
  - ii. with 1 college and/or equivalent technical course of radiochemistry for each technology/method used in the laboratory, with a maximum of 4 courses required. For example, the technical manager of a laboratory performing only gas-flow proportional counting (GFPC) would need only 1 course of credit, whereas one at a laboratory performing GFPC, alpha spectrometry, gamma spectrometry, liquid scintillation, alpha scintillation, and ICP-MS would require 4 courses. In the case where a new technology/method is brought online, the total number of Radiochemistry courses is not yet 4, and the technical expert does not have a full year of experience in that specific technology/method before accreditation is sought, accreditation for the new technology/method may be given based upon the demonstrated performance of the new method and PT performance (installation documentation, method validation, DOCs, PT performance, etc), with a maximum of one technology/method per year; and
  - iii. with two (2) or more years of experience in the radiological analysis of environmental samples.
  - iv. A master's or doctoral degree in one of the above disciplines may be substituted for one (1) year experience.
  - v. 1 year experience working in an environmental radioanalytical laboratory may be substituted for 1 course. Multiple years of substitution may be utilized, but each year substituted must be related to the learning of and proficiency in a different analytical method/technique or instrumentation type. This will help ensure an increasing level of knowledge in radiochemistry analyses (preparation and/or instrumentation) during that time period. No more than 6 courses total may be substituted – at least 6 courses must be from actual college and/or equivalent technical training sources.

### 3. Reporting Uncertainty

Keith McCroan presented a recommendation for consideration during the last meeting regarding reporting of uncertainty. Developing guidance and not scoring criteria. There was no discussion.

We are using 2 instead of 1.96 in number one. It keeps it simpler.

A motion was made by Chrystal to approve the language presented by Keith McCroan at the March meeting on 3-23-22. Velinda seconded the motion and there was no further discussion. The motion was unanimously approved.

Terry will send the recommendation to PTPEC and the PT Expert Committee. Ilona forwarded Fred Anderson's email address to Terry.

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 May 25, 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 2:30 pm Eastern.

**Attachment A**  
**Participants**  
**Radiochemistry Expert Committee**

<b>Members</b>	<b>Affiliation</b>		<b>Contact Information</b>
Terry Romanko Chair (2024) <b>Present</b>	TestAmerica Laboratories, Inc.	Lab	Terry.romanko@testamericainc.com
Sherry Faye (2022*) <b>Present</b>	Wadsworth Center, NY State DOH Albany, NY	Lab	sherry.faye@health.ny.gov
Velinda Herbert (2024) <b>Present</b>	National Analytical Environmental Laboratory	Lab	Herbert.velinda@epa.gov
Brian Miller (2024) <b>Present</b>	ERA	Other	bmiller@eraqc.com
Stan Stevens (2023*) <b>Absent</b>	Perma-Fix Environmental Services	Other	stanws@aol.com
Amanda Fehr (2023*) <b>Present</b>	GEL	Lab	amanda.fehr@gel.com
Jim Chambers (2023*) <b>Present</b>	Fluor-BWXT Portsmouth LLC	Other	jim.chambers@ports.pppo.gov
Greg Raspanti (2022*) <b>Absent</b>	New Jersey Department of Environmental Protection	AB	Greg.Raspanti@dep.nj.gov
Robert Aullman (2022*) <b>Present</b>	Utah Department of Health	AB	aullman77@gmail.com
Chrystal Sheaff (2024*) <b>Present</b>	Energy Laboratories, Inc.	Lab	csheaff@energylab.com
Mary Beth Gustafson (2024*) <b>Present</b>	Virginia	AB	mary.gustafson@dgs.virginia.gov
Ilona Taunton (Program Administrator) <b>Present</b>	The NELAC Institute	n/a	Ilona.taunton@nelac-institute.org

**Attachment B****Action Items – REC**

	<b>Action Item</b>	<b>Who</b>	<b>Target Completion</b>	<b>Completed</b>
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	
114	Terry will send the reporting uncertainty recommendation to PTPEC and the PT Expert Committee.	Terry	5-24-22	

**Attachment C – Back Burner / Reminders**

	<b>Item</b>	<b>Meeting Reference</b>	<b>Comments</b>
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:

- a) Any technical expert of an accredited environmental laboratory engaged in radiological analysis shall be a person:
  - i. with 8 college and/or equivalent technical courses in any combination of chemistry and/or physics; and
  - ii. with 1 additional college and/or equivalent technical course of radiochemistry for each technology/method used in the laboratory, with a maximum of 4 courses required.
    - i. For example, the technical manager of a laboratory performing only gas-flow proportional counting (GFPC) would need only 1 course of credit, whereas one at a laboratory performing GFPC, alpha spectrometry, gamma spectrometry, liquid scintillation, alpha scintillation, and ICP-MS would require 4 courses.
    - ii. In the case where a new technology/method is brought online, the total number of Radiochemistry courses is not yet 4, and the technical expert does not have a full year of experience in that specific technology/method before accreditation is sought, accreditation for the new technology/method may be given based upon the demonstrated performance of the new method and PT performance (installation documentation, method validation, DOCs, PT performance, etc), with a maximum of one technology/method per year; and
  - iii. with two (2) or more years of experience in the radiological analysis of environmental samples.
    - i. A master's or doctoral degree in one of the above disciplines may be substituted for one (1) year experience.
  - iv. 1 year experience working in an environmental radioanalytical laboratory may be substituted for 1 course in section a.i or a.ii.
    - i. Multiple years of substitution may be utilized, but each year substituted must be related to the learning of and proficiency in a different analytical method/technique or instrumentation type. This will help ensure an increasing level of knowledge in radiochemistry analyses (preparation and/or instrumentation) during that time period. No more than 6 courses total may be substituted – at least 6 courses must be from actual college and/or equivalent technical training sources.