

Whole Effluent Toxicity Testing Expert Committee Meeting Summary

Forum on Laboratory Accreditation Albuquerque, NM

January 23, 2018 8:00 am Mountain Time

1. Welcome and Announcements

Rami welcomed everyone to the meeting. Attendance is recorded in Attachment 1, below.

2. Presentation to Participants

Rami discussed the committee's accomplishments as well as the activities underway. The biggest achievement was delivery of the webinar, "Understanding WET Testing," in May, 2017. This course is available as a webcast on the TNI website.

The activities focus on two areas – improving the usability and comparability of PT/DMR-QA results and revising the WET module of the TNI standard.

3. PT Activities

The committee's efforts to improve the usefulness of PT results began with a white paper delivered to EPA's DMR-QA Coordinator in 2015 (see "Primary Purpose of Whole Effluent Toxicity for Discharge Monitoring Report..." at <http://nelac-institute.org/committee/wett>.) This white paper was referred to EPA's Environmental Laboratory Advisory Board (ELAB), and the committee presented its contents to ELAB (see "WET Recommendation to EPA..." at <http://nelac-institute.org/committee/wett>.) Eventually, ELAB wrote a letter to EPA's Forum on Environmental Measurements (FEM), and EPA representatives met with ELAB's workgroup members and TNI representatives, including members of the WET Expert Committee, at conference in Washington, DC, August, 2017. Email communications continue among those who were actively involved. EPA's Office of Wastewater prefers that the DMR-QA and PT tests reflect the ability of a lab to perform the method as specified in the NPDES permit, which essentially provides results from a variety of test protocols that vary in multiple ways. Since the analyte in WET testing is essentially living creatures, that variability in protocol as well as variability in the test organisms themselves (sources of organisms used and unknown genetic diversity, especially for lab-grown organisms) makes comparison of PT results questionable, at best.

Then, in late 2017, the WET committee asked TNI's PT Program Executive Committee (PTPEC) for its help in working with PT Providers to find way(s) to make the PT samples consistent across providers and to specify test conditions, so that the small number of WET labs' PT results would be comparable, rather than reflecting different toxicants and different test conditions. This effort is still in preliminary discussion stages.

4. Revising the WET Module of the TNI Standard (V1M7)

Before the WET Expert Committee was formed, a subcommittee of the Quality Systems Expert Committee had finalized a revision of V1M7, the "2012 revision." After reviewing this 2012 revision, the WET committee recommended that the 2009 version of V1M7 be carried forward into the 2016 TNI Environmental Lab Sector Standard, instead, because two major parts of the 2012 revision were considered by the committee to not reflect actual and practicable procedures for demonstrations of competence (DOC) and also to require excessively stringent QA/QC for the support measurements (not compliance testing) routinely used in WET testing.

Having declined the 2012 revision, the WET committee needs to create a suitable revision to accompany the next update of the TNI standard. While this will likely be another five years or longer into the future, given the scope of the committee's responsibilities and activities,

conversations are already well underway about how to accomplish that revision. The challenge is to describe how the DOC may be conducted while using work cells or teams, giving each lab flexibility to use its staff in the lab's existing work environment but differentiating between lab DOC and analyst training, and to define (and then describe) what is "reasonable" QA/QC for the chemistry support measurements (pH, conductivity, temperature, and more.) This will need to be acceptable to the Accreditation Bodies using the standard (the NELAP Accreditation Council, essentially), with definitions of a lab DOC versus the individual analyst DOC (training.)

5. Issues Raised in Discussion

One issue raised in the discussion concerned the presence of non-soluble soils or sediments in samples provided to the lab for WET testing, rather than when the test sample itself is a solid/sediment. Distinguishing "accredited" tests from non-accredited tests, when solids are present, seems to be a matter of debate, and participants asked that the next revision of the standard describe and address how such samples should be considered.

Another commenter suggested that the committee look at similarities and differences between WET testing and chemical analysis, that perhaps some clues about how better to describe the testing process might emerge.

One associate member of the WET committee shared how the small sample size (number of labs) impacts the determination of whether PT results fall within the acceptance limits, and also how the health of the test organisms can impact test results, even though it is not measured directly in WET testing.

Another commenter inquired about the use of "shared controls", where instead of running control samples with each test, one batch of controls was run with perhaps ten identical tests (each using a different client sample.) Participants agreed that while this procedure is surely questionable, it is not expressly forbidden in either the method manual or the standard.

As follow-up to the Monday afternoon Mentor Session at conference an associate member asked about the use of data qualifiers for WET test results. The one AB present indicated that it would reject use of qualified WET results. (NOTE: a later qualification by that AB states that it would reject data with qualifiers associated with failed test acceptable criteria, but that if there were qualifiers on the report unrelated to TAC but other issues with the test then we'd review those to determine acceptance.) The Mentor Session's output is supposed to become implementation guidance, which must be approved by a different committee that Lynn staffs, so she will keep an eye out for it and ensure that WET testing is specifically addressed.

Dan Hickman, TNI's Database Administrator, requested help from the committee in determining what and how much of the material in the Method Manual appendices needs to accompany each individual method, as he approached completion of the compendium of methods that is incorporated into the LAMS database (lams.nelac-institute.org). Dan's goal is to have a copy of each method (or instructions for obtaining the method if it's copyrighted) accessible in the database. He noted that having all of the appendix material accompany each test method seemed like a lot of documentation, but if it's all needed, then that's what he will do; he just needs guidance about how to proceed.

Lastly, a representative of the National Environmental Field Activities Program (NEFAP) Executive Committee asked that the WET committee contact that program in order to have input into the revision of the Field Sampling and Measurement Organization (FSMO) Standard being developed by the Field Activities Committee (another expert committee.) The appropriate contacts are Kevin Holbrook and Justin Brown.

At this point, it was time for the morning break, and virtually none of the audience returned. However, one AB representative did drop in, someone who had missed the first part of the session, and the committee members who returned joined in a productive conversation for about an hour.

6. Next Meeting

The next teleconference will be Wednesday, February 21, 2018, at 1 pm Eastern. Teleconference information and an agenda will be provided in advance.

Attachment 1

Committee Membership

Member	Affiliation	Email	Category	Term Expiration	Present
Rami Naddy (Chair)	TRE Env. Strat. LLC	naddyrb.tre@gmail.com	Lab	Dec. 2020	Yes
Ginger Briggs	Bio-Analytical Laboratories	bioanalytical@wildblue.net	Lab	Dec. 2020	No
Pete De Lisle (Vice Chair)	Coastal Bioanalysts Inc.	pfd@coastalbio.com	Lab	Dec. 2020	No
Steven Rewa	Environmental Resources Management	steven.rewa@erm.com	Lab	Feb. 2018	No
Chris Burbage	Hampton Roads Sanitation District	cburbage@hrsd.com	Lab	Feb. 2018	No
Chris Pasch	Alan Plummer Associates, Inc.	cpasch@apainv.com	Other	Dec. 2020	No
Teresa Norberg-King	USEPA	norberg-king.teresa@epa.gov	Other (Affiliate)	Dec. 2020	No
Elizabeth West	LA DEQ LELAP	elizabeth.west@la.gov	AB	Dec. 2020	No
Amy Hackman	Penn. Dept. Environ. Protection	ahackman@pa.gov	AB	Dec. 2020	No
Michele Potter	New Jersey Dept of Environ Protect.	Michele.Potter@dep.nj.gov	AB	Dec. 2020	Yes
Michael Pfeil	Texas Comm. Environ. Quality	Michael.pfeil@tceq.texas.gov	AB	Dec. 2020	No
Kari Fleming	WI DNR	kari.fleming@wisconsin.gov	AB	Dec. 2017	No
Associate Members					
Debmalya Bhattacharyya	NE Ohio Regional Sewer District	bhattacharyad@neorsd.org	Lab (Assoc.)		No
Michael Chanov	EA Eng., Sci. &Tech.	mchanov@eaest.com	Lab (Assoc.)	--	No

Kevin Dischler	Element Materials Technology	Kevin.dischler@element.com	Lab (Assoc.)	---	No
Monica Eues	CK Associates	Monica.eues@c-ka.com	Lab (Assoc.)		No
Joseph Faircloth	FL DEP	joseph.faircloth@dep.state.fl.us	Lab (Assoc.)		No
Christina Henderson	Bio-Aquatic Testing, Inc.	chenderson@bio-aquatic.com	Lab (Assoc.)		No
Vel Rey Lozano	USEPA Region 8	Lozano.VelRey@epa.gov	Other (EPA)	--	No
Linda Nemeth	Northwestern Aquatic Sciences	lnemeth@tds.net	Lab (Assoc.)		No
Mark O'Neil	Environmental Enterprises USA, Inc.	moneil@eeusa.com	Lab (Assoc.)	---	No
John Overbey	American Interplex Corp.	joverbey@americaninterplex.com	Lab (Assoc.)		No
Katie Payne	Nautilus Environmental	katie@nautilusenvironmental.com	Lab (Assoc.)		No
Christina Pottios	Los Angeles County Sanitation Districts	cpottios@lacsds.org	Lab (Assoc.)		No
Shain Schmitt	ESC Lab Sciences	sschmitt@esclabsciences.com	Lab (Assoc.)		No
Greg Savitske	US EPA OECA	Savitske.gregory@epa.gov	Other (EPA)		No
Thekkekalathil "Chandra" Chandrasekhar	FL DEP	Thekkekalathil.Chandrasekhar@dep.state.fl.us	Other (Assoc.)		Yes
Beth Thompson	Shealy Consulting	bthompson@shealyconsulting.net	Lab (Assoc.)		Yes
Jordan Thorngren	Eurofins (Horsham, PA)	jordanthorngren@eurofinsUS.com	Lab (Assoc.)		No
Tom Widera	ERA	twidera@eraqc.com	Other		No
Program Administrator					
Lynn Bradley	TNI	Lynn.Bradley@nelac-institute.org			Yes

Attachment 2

Action Items

	Action/Activity	Responsible Person(s)	Anticipated Completion	Comments
15	Draft language about DOC requirements	Steve and Pete, with others	??	May meeting begins the review
16	Submit difficult questions from webinar to committee for response	Ginger, Elizabeth, et al	December 2017	
17	Draft language about QC requirements for water chemistry measurements	Michele, John, others?	??	Review draft language in light of 2016 revision to the Chemistry module
18	Reply to Laura Phillips' questions in follow-up to August meeting about PT/DMR-QA	Rami	?	