Whole Effluent Toxicity Testing Expert Committee Meeting Summary

July 20, 2016 1 pm Eastern

1. Welcome, Roll Call, Approval of Minutes and Announcements

In Rami's absence, Pete welcomed everyone to the meeting. Minutes of the June 15, 2016, meeting were approved. Attendance is recorded in Attachment 1, below.

2. PTPEC Resolution

The TNI Board of Directors approved the recommendation provided by TNI's Policy Committee that our expert committee should remain separate in organization and function from the PTPEC FoPT subcommittee, with the rationale that the lines of reporting should remain separate across the two different TNI program areas. This Expert Committee is part of the Consensus Standards Development program, with the PT program being entirely separate. It seems that the PTPEC will independently reconstitute an FoPT subcommittee for WET when there is a need to update the table, in the future.

NOTE: the WET FoPT table is posted, effective date July 31, 2016. The references to ">100%" remain in the footnotes, but with some explanation.

3. Assessment Forum Planning

A sanitized version of one state AB's WET method checklist was distributed for review, to ensure that all state-specific references were removed. Any additional edits should be forwarded to Lynn no later than Wednesday July 27,

One committee member had submitted additional definitions for the glossary, and the expanded version was also distributed prior to the meeting. Any additional comments should be sent to Mark O'Neil by Wednesday July 27.

Ginger needs these in advance of the conference so that she can have copies to distribute with her presentation.

Ginger distributed the PowerPoint presentation for the WET Assessment Forum. Working with Elizabeth, Teresa, Katie and Laura Davis (of Shealy Consulting), and also using some material from Rami's presentation to ELAB earlier in the year, Ginger created an excellent and smooth-flowing presentation for the session at conference. Participants discussed several aspects, such as how much emphasis to place on West Coast methods (since the conference is in southern California) and several other issues. Ginger asked for additional comments or corrections to reach her by Thursday, July 21, so that she can provide the final version to Barbara for review by the Assessment Forum planning committee on Friday, July 22.

Ginger thanked everyone who contributed to making the presentation, and the session where it will be delivered, a success!

4. WET as a Resource for Method Refinements and Recommendations

Due to time constraints, this issue was not addressed, so there is still time to respond to Rami's request from the June meeting, with their thoughts on the possible responses to submitted questions (see Attachment 3, below) about

1) Personal comfort level with the concept of providing such a response, and

2) Specifics of the draft response, especially about implied mandatory or non-mandatory practices according to language in the chronic and acute manuals, and also to add material that may be appropriate.

There was no new business. The meeting adjourned at 2:10 Eastern time.

5. Next Meeting

The WET Expert Committee will meet again on Tuesday afternoon, August 9, at 1 pm local time during the TNI conference.

The next teleconference meeting will be Wednesday, September 21, 2016, at 1 pm Eastern. Teleconference information and an agenda will be circulated in advance of the meeting.

Attachment 1

Committee Membership

Member	Affiliation	Email	Phone	Category	Term Expiration	Present
Rami Naddy (Chair)	TRE Env. Strat. LLC	naddyrb.tre@gmail.com	970-416-0916	Lab	Feb. 2018	No
Ginger Briggs	Bio-Analytical Laboratories	bioanalytical@wildblue.net	318-745-2772	Lab	Feb. 2018	Yes
Pete De Lisle (Vice Chair)	Coastal Bioanalysts Inc.	pfd@coastalbio.com	804-694-8285	Lab	Feb. 2018	Yes
Steven Rewa	Environmental Resources Management	steven.rewa@erm.com	616-738-7324	Lab	Feb. 2018	No
Chris Burbage	Hampton Roads Sanitation District	cburbage@hrsd.com	757-355-5013	Lab	Feb. 2018	Yes
Chris Pasch	Alan Plummer Associates, Inc.	cpasch@apaienv.com	512-687-2162	Other	Feb. 2018	Yes
Teresa Norberg-King	USEPA	norberg-king.teresa@epa.gov	218-529-5163	Other	Feb. 2018	Yes
Elizabeth West	LA DEQ LELAP	elizabeth.west@la.gov	318-676-7457	AB	Feb. 2018	Yes
Amy Hackman	Penn. Dept. Environ. Protection	ahackman@pa.gov	717-346-8209	AB	Feb. 2018	Yes
Michele Potter	New Jersey Dept of Environ Protect.	Michele.Potter@dep.nj.gov	609 984-3870	AB	Feb. 2018	No
Michael Pfeil	Texas Comm. Environ. Quality	Michael.pfeil@tceq.texas.gov	512-239-4592	AB	Feb. 2018	No
Kari Fleming	WI DNR	kari.fleming@wisconsin.gov	608-267-7663	AB	Dec. 2017	No
Associate Members						
Kevin Dischler	Element Materials Technology	Kevin.dischler@element.com	337-443-4010	Lab (Assoc.)	---	Yes
Monica Eues	CK Associates	Monica.eues@c-ka.com	225-923-6946	Lab (Assoc.)		No

Barbara Escobar	Pima County RWRD, CRAO Laboratory	Barbara.escobar@pima.gov	520-724-6052	Lab (Assoc.)	---	Yes
Robert Kelley	ETT Environmental Inc	bobkelley@ettenvironmental.com	864-877-6942	Lab (Assoc.)	---	No
Brian Krausz	USEPA	krausz.brian@epa.gov	202-564-3069	Other (EPA)	--	No
Jennifer Loudon	Raritan Township Municipal Utilities Authority	JLoudon@rtmua.com	908-787-7453 x 19	Lab (Assoc.)	---	No
Vel Rey Lozano	USEPA Region 8	Lozano.VelRey@epa.gov	303-312-6128	Other (EPA)	--	No
Robert Martino	QC Laboratories	rmartino@qclaboratories.com	267-699-0103	Lab (Assoc.)	---	No
Jamie Mitchell	Hampton Roads Sanitation District	jmitchell@hrsd.com	757-460-4220	Lab (Assoc.)	---	No
Linda Nemeth	Northwestern Aquatic Sciences	lnemeth@tds.net	541-265-7225	Lab (Assoc.)		No
Mark O'Neil	Environmental Enterprises USA, Inc.	moneil@eeusa.com	800-966-2788	Lab (Assoc.)	---	Yes
Marilyn O'Neill	Nautilus Environmental	Marilyn@ nautilusenvironmental.com)	858-587-7333	Lab (Assoc.)		No
John Overbey	American Interplex Corp.	joverbey@americaninterplex.com	501-224-5060, ext. 209	Lab (Assoc.)		No
Joe Pardue	Pro2Serve	Parduegjjr@oro.doe.gov	423-404-4117	Other	---	Yes
Peter M Paulos	Atkins Environmental Toxicology Lab	Peter.Paulos@atkinsglobal.com	713-292-9023	Lab (Assoc.)	---	No
Katie Payne	Nautilus Environmental	katie@ nautilusenvironmental.com	858-587-7333 ext. 212	Lab (Assoc.)		Yes
Beth Thompson	Shealy Consulting	bthompson@ shealyconsulting.net	803-582-7996	Lab (Assoc.)		Yes
Tom Widera	ERA	twidera@eraqc.com	303-463-3536	Other		No
Program Administrator						
Lynn Bradley	TNI	Lynn.Bradley@nelac-institute.org	540-885-5736			Yes

Attachment 2

Action Items

	Action/Activity	Responsible Person(s)	Anticipated Completion	Comments
1	WET session for Assessment Forum – determine content and presentation format for one 60-minute & one 90-minute block	Ginger/Elizabeth w/ Rami, Teresa & Katie/Marilyn to work w/ Barbara & LASEC	August 2016 conference in Orange County, CA	Final powerpoint review underway, last-minute comments by COB 7/21/16.
3	Review V1M7 for needed revisions	Steve – DOC John – chemistry issues Beth, Linda, others	Ongoing	Formal revision cannot yet begin, likely until fall.
4	Develop checklist for WET assessors, possibly for use with Assessment Forum	Rami, Pete, Lynn	By July 20 committee meeting, Modify Virginia WET-specific checklist to become generic	Last minute comments by July 27
6	~~Review and provide comments on draft powerpoint presentation~~	~~All members~~	~~No later than July15 for 7/20 meeting and final version~~	~~Last minute comments by F~~
7	Review draft response to questions, as provided by Rami, and submit comments	All members	No later than July15 for 7/20 meeting and final version	Active until September meeting
8	Submit audit findings for discussion at WET Assessment Forum	All members	No later than July15 for 7/20 meeting and final version	Last minute submissions until Friday July 22
9	Prepare draft presentation for WET committee session at conference	Lynn to prepare draft, Rami to finalize; Ginger will deliver at conference	By July 20 meeting	Completed, approved by Rami and Ginger.
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Attachment 3 – Draft Response to Questions (please send comments to Rami)

Questions

1) Is randomization necessary or can the lab justify conducting the test without randomization?

While there is nothing in the TNI Volume 1, Module 7 (Quality Systems for Toxicity Testing) to assist us in addressing this question, there are several instances in EPA's chronic WET guidance discussing the importance and requirement of randomizing both the addition of test organisms to test chambers and the placement of test chambers. The pertinent language describing this in the subsections are included below.

Per USEPA chronic WET guidance9.4.4.1: "Statistical independence among observations is a critical assumption in all statistical analysis of toxicity data. One of the best ways to insure independence is to properly follow rigorous randomization procedures. Randomization techniques should be employed at the start of the test, including the randomization of the placement of test organisms in the test chambers and randomization of the test chamber location within the array of chambers.

(FHM) 11.3.4.5.1 All test chambers must be randomized using a template for randomization or by using a table of random numbers. Test chambers are randomized once at the beginning of the test (see Subsection 11.10.2.3). When using templates, a number of different templates should be prepared, so that the same template is not used for every test. Randomization procedures must be documented with daily records.

11.10.2.3 Randomize the position of test chambers at the beginning of the test (see Appendix A). Maintain the chambers in this configuration throughout the test.

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13.10.2.2 the test chambers must be randomly assigned to a board using a template (Figure 1) or by using random numbers (see Appendix A). Randomizing the position of test chambers as described in figure 1 (or equivalent) will assist in assigning test organisms using blocking by known parentage (Subsection 13.102.4). A number of different templates should be prepared, and the template used for each test should be identified on the data sheet. The same template must not be used for every test.

2) Should passing or failing tests be considered invalid without demonstration of randomization or if they are not adhering to other items in the Method?

Specific questions like this are outside of the responsibility of the TNI WET expert committee and should be brought specifically to those State representatives that have jurisdiction (or in some cases clients) that are in a position to qualify the data. However, given that the specific wording in answering question #1 above includes 'must' phrases and not 'should' phrases, some individuals on this committee feel that WET tests that were not randomly set up are invalid for reporting purposes.

3) Should passing or failing tests be considered invalid without demonstration adherence to the specific items identified in the Summary of Test Conditions tables in the Method? [Randomization is not included the Summary of Test Conditions tables]

Again, specific questions like this are outside of the responsibility of the TNI WET expert committee and should be brought specifically to those State representatives that have jurisdiction (or the client's in question so they know what the testing lab is doing or not doing) that are in a position to qualify the data. However, some recommendations are to pay attention to the specific wording regarding what is required for not. For example using the summary of test conditions for the *C. dubia* chronic study below are the required conditions for this test (unless specified). Other items listed on the table are recommended.

- Static-renewal
- Test temperature of 25±1°C (recommended) with a maximum differential of 3°C (required)
- Daily renewal
- Age: <24-h old within an 8-h period
- 1 organism per test cup, placement assigned using blocking by known parentage
- 10 replicates
- 5 test concentrations & control (while this is required some states perform testing with only one effluent concentration and a control – so this requirement is state specific)
- Test duration: when 60% or more of the surviving control females have had three broods (maximum test duration of 8 days)
- Endpoints: survival and reproduction
- Test acceptability criteria (TAC): ≥80% survival of control organisms, ≥ 15 average neonates per surviving control females, ≥60% of surviving control females have had three broods
- A minimum of 3 effluent samples per test with a maximum holding time of 36 h before first use, see Subsection 8.5.4 for more info.

While this committee cannot make a definitive ruling on whether a test should be considered valid or not, we do feel that tests should follow the specific requirements of the guidance.

4) The average reproduction in all passing tests in all dilutions and control water is always (observation in over 20 tests in over 3 years) between 22 neonates/adult and 25neonates/adult. Is that a concern and if so how should it be addressed?

Again, specific questions like this are outside of the responsibility of the TNI WET expert committee and should be brought specifically to those State representatives that have jurisdiction (or the client's in question so they know what the testing lab is doing or not doing) that are in a position to qualify the data. However, it does seem odd that the reproduction for 20 different tests over a three year period has average reproduction in all dilutions and control waters would be between 22 and 25 neonates. Some possible suggestions would be to perform a split test with an additional laboratory to compare results and to send blind (unknown) samples to the laboratory for testing in duplicate.

5) Should an official audit identify either 1) or 4) as a concern?

Again while this is outside of our specific jurisdiction we can only offer suggestions regarding any potential course of action. If there are specific things that make you wonder about the quality of the data being produced then you may first want to talk to the laboratory and raise those questions. If that does not resolve the issues and you feel like these are significant issues then bringing those issues to the client and state representatives would be a potential next step. If those do not result in addressing these issues to your satisfaction, then you may want to consider switching laboratories (or make a recommendation to switch laboratories) to one that follows the WET guidance for these specific tests.