

## Whole Effluent Toxicity Testing Expert Committee Meeting Summary

September 21, 2016 1 pm Eastern

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

Rami welcomed everyone to the meeting. Minutes of the July 20 and August 10, 2016, meetings were approved. Attendance is recorded in Attachment 1, below.

### 2. Follow-Up to Conference

Rami thanked and congratulated Ginger, Katie and Beth for their successful Assessment Forum presentation, and expressed his appreciation to all of the committee members who contributed to that presentation. He also thanked Katie for delivering the presentation about this committee's white paper and recommendations for modifying the PT and DMRQA procedures and reporting. Each was invited to share their experience with the group.

Ginger thanked everyone for reviewing and commenting on the draft presentation and especially Teresa and Beth who contributed photographs and graphics during its development. The Assessment Forum event was literally "standing room only" and it overflowed into the hallway! She had been concerned about whether they could complete the presentation during the morning session, and planned to carry over into the afternoon committee meeting session, if needed, but they were able to complete the actual presentation, without rushing, during the morning. The afternoon session had a brief summary of committee activities and then participants from the morning's Forum had opportunity to ask questions and interact with Beth and Katie, as well as Ginger.

Only five evaluations were returned, and most were positive but expressed a desire to have more time to absorb the information being presented. Particular requests were for more focus on West Coast methods (this was in California) and TST, and for more explanation of the standard reference toxicant section. Assessors wanted some definitive number for "how many 'mays' would it take to invalidate a test" (not possible to give one fixed number) and also asked for changes to the DMRQA scheme (beyond the committee's scope.) Beth and Katie largely echoed Ginger's comments. Beth added that the reference toxicant issue will be addressed in the "errata" section that is soon to be published by EPA as part of the Office of Water's final Method Update Rule. Katie suggested that, when the presentation is repeated, it shift approach and go more in-depth for specific topics rather than the overview.

Ginger noted that she's getting contacts from both WET labs and non-TNI state certification programs about the reference toxicants, and Teresa discussed further how the errata in the upcoming MUR will address those, while also sharing that she'd received information from the MN Pollution Control staffers that the presentation was excellent and well received.

Takeaway messages seem to be that the material needs to be presented more slowly (unclear whether in more detail or just that it was too much, too fast to absorb) and that assessors should take the time to watch a test actually being set up, if not completely performed. Rami pointed out that this was the committee's first outreach effort but that we need to continue that outreach and education in various venues and approaches.

### 3. Possible Webinar Production in the Future

During preparation of the Forum presentation, we had discussed the possibility of turning it into a webinar that could be used for assessor training. Lynn shared that TNI's Executive Director, Jerry Parr, suggested doing one free webinar for NELAP state personnel and another that could

be publicized to labs and non-NELAP states (and elsewhere) with a nominal fee for participation, but that since this is a volunteer effort, perhaps doing two separate presentations would be overly burdensome. TNI's Training Coordinator, Ilona Taunton, is ready and willing to work with the presenters once we determine the format and so forth, to actually produce and record this planned webinar.

Participants discussed possible expansion of the format into multiple modules, for assessor training, each with a different presenter – envisioned as Ginger, Beth, Chris Pasch, and maybe others – to go into more depth on particular topics. This, of course, will require creating further sets of powerpoints for such presentations, not simply using the one already prepared.

In the interest of full disclosure, Lynn noted that individuals may propose to create and deliver training, using a form on the TNI website. One participant wanted to know how much TNI would pay, but that figure is not available, and committee efforts are expected to be supported by volunteers, not paid presenters, with TNI hosting the webinar and providing publicity, registrations and certificates to attendees (if desired.)

We will revisit these possibilities at the October committee meeting.

#### **4. ELAB Presentation by Katie**

Rami thanked Katie for delivering the same presentation about our white paper, which Rami discussed on a teleconference in the spring. Katie was able to be present in the room with one of the twice-yearly in-person meetings of the USEPA's Environmental Laboratory Advisory Board, which included the participants in the audience as well as ELAB members. Katie said there were no questions after her presentation. Since our committee meets at the same time as ELAB, and neither has met since conference, Lynn will try to find out what steps ELAB decided to take in its consideration of our recommended changes to the WET proficiency testing scheme.

#### **5. WET as a Resource for Method Refinements and Recommendations**

In the spring, Rami brought some questions to the committee, and draft responses were circulated for comment. Due to time constraints, this issue has not been revisited since June, and only one committee member offered comments thus far. See Attachment 3, below. The responses will be an item for the October agenda, so that Rami can respond to the submitter and close out this item.

#### **6. Revising the Standard**

Lynn explained the status of the modules already revised, that are essentially awaiting formal approval by ANSI to become ANSI-approved standards. It looks as if this process will be completed within about two months, so that the WET committee can then provide formal notification and begin its update of Module 7.

Participants briefly discussed what they might want to update. The top item will be to address relevant parts from the errata about WET that Teresa has been working on, that will be published as part of the upcoming MUR (see above), primarily about reference toxicants and calculating Q-sum values. The MUR should be published by time we get revisions underway, but for now, Teresa cannot share that material as it is considered confidential by EPA, even though it will be primarily a compilation of information previously published by the Agency but in a variety of different locations.

#### **7. The Glossary**

Rami noted that Linda had submitted a few new items for the glossary, and that we need to resolve which of the two possible definitions should be used for Point Estimate. This discussion can take place on email, so that a final version can be approved at the October meeting.

There was no new business and the meeting adjourned about 2:15 pm Eastern.

#### **8. Next Meeting**

The WET Expert Committee will meet again on Wednesday, October 19, 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	<a href="mailto:naddyrb.tre@gmail.com">naddyrb.tre@gmail.com</a>	970-416-0916	Lab	Feb. 2018	Yes
Ginger Briggs	Bio-Analytical Laboratories	<a href="mailto:bioanalytical@wildblue.net">bioanalytical@wildblue.net</a>	318-745-2772	Lab	Feb. 2018	Yes
Pete De Lisle (Vice Chair)	Coastal Bioanalysts Inc.	<a href="mailto:pdf@coastalbio.com">pdf@coastalbio.com</a>	804-694-8285	Lab	Feb. 2018	No
Steven Rewa	Environmental Resources Management	<a href="mailto:steven.rewa@erm.com">steven.rewa@erm.com</a>	616-738-7324	Lab	Feb. 2018	Yes
Chris Burbage	Hampton Roads Sanitation District	<a href="mailto:cburbage@hrsd.com">cburbage@hrsd.com</a>	757-355-5013	Lab	Feb. 2018	Yes
Chris Pasch	Alan Plummer Associates, Inc.	<a href="mailto:cpasch@apaienv.com">cpasch@apaienv.com</a>	512-687-2162	Other	Feb. 2018	Yes
Teresa Norberg-King	USEPA	<a href="mailto:norberg-king.teresa@epa.gov">norberg-king.teresa@epa.gov</a>	218-529-5163	Other	Feb. 2018	Yes
Elizabeth West	LA DEQ LELAP	<a href="mailto:elizabeth.west@la.gov">elizabeth.west@la.gov</a>	318-676-7457	AB	Feb. 2018	Yes (Grant Aucoin sat in for info when she left)
Amy Hackman	Penn. Dept. Environ. Protection	<a href="mailto:ahackman@pa.gov">ahackman@pa.gov</a>	717-346-8209	AB	Feb. 2018	No
Michele Potter	New Jersey Dept of Environ Protect.	<a href="mailto:Michele.Potter@dep.nj.gov">Michele.Potter@dep.nj.gov</a>	609 984-3870	AB	Feb. 2018	No
Michael Pfeil	Texas Comm. Environ. Quality	<a href="mailto:Michael.pfeil@tceq.texas.gov">Michael.pfeil@tceq.texas.gov</a>	512-239-4592	AB	Feb. 2018	Yes
Kari Fleming	WI DNR	<a href="mailto:kari.fleming@wisconsin.gov">kari.fleming@wisconsin.gov</a>	608-267-7663	AB	Dec. 2017	Yes
<b>Associate Members</b>						
Kevin Dischler	Element Materials Technology	<a href="mailto:Kevin.dischler@element.com">Kevin.dischler@element.com</a>	337-443-4010	Lab (Assoc.)	---	No

Monica Eues	CK Associates	<a href="mailto:Monica.eues@c-ka.com">Monica.eues@c-ka.com</a>	225-923-6946	Lab (Assoc.)		No
Barbara Escobar	Pima County RWRD, CRAO Laboratory	<a href="mailto:Barbara.escobar@pima.gov">Barbara.escobar@pima.gov</a>	520-724-6052	Lab (Assoc.)	---	No
Robert Kelley	ETT Environmental Inc	<a href="mailto:bobkelley@ettenvironmental.com">bobkelley@ettenvironmental.com</a>	864-877-6942	Lab (Assoc.)	---	No
Brian Krausz	USEPA	<a href="mailto:krausz.brian@epa.gov">krausz.brian@epa.gov</a>	202-564-3069	Other (EPA)	--	No
Jennifer Loudon	Raritan Township Municipal Utilities Authority	<a href="mailto:JLoudon@rtmua.com">JLoudon@rtmua.com</a>	908-787-7453 x 19	Lab (Assoc.)	---	No
Vel Rey Lozano	USEPA Region 8	<a href="mailto:Lozano.VelRey@epa.gov">Lozano.VelRey@epa.gov</a>	303-312-6128	Other (EPA)	--	No
Robert Martino	QC Laboratories	<a href="mailto:rmartino@qclaboratories.com">rmartino@qclaboratories.com</a>	267-699-0103	Lab (Assoc.)	---	No
Jamie Mitchell	Hampton Roads Sanitation District	<a href="mailto:jmitchell@hrsd.com">jmitchell@hrsd.com</a>	757-460-4220	Lab (Assoc.)	---	No
Linda Nemeth	Northwestern Aquatic Sciences	<a href="mailto:lnemeth@tds.net">lnemeth@tds.net</a>	541-265-7225	Lab (Assoc.)		No
Mark O'Neil	Environmental Enterprises USA, Inc.	<a href="mailto:moneil@eeusa.com">moneil@eeusa.com</a>	800-966-2788	Lab (Assoc.)	---	Yes
Marilyn O'Neill	Nautilus Environmental	<a href="mailto:Marilyn@nautilusenvironmental.com">Marilyn@nautilusenvironmental.com</a>	858-587-7333	Lab (Assoc.)		No
John Overbey	American Interplex Corp.	<a href="mailto:joverbey@americaninterplex.com">joverbey@americaninterplex.com</a>	501-224-5060, ext. 209	Lab (Assoc.)		No
Joe Pardue	Pro2Serve	<a href="mailto:Parduegjr@oro.doe.gov">Parduegjr@oro.doe.gov</a>	423-404-4117	Other	---	No
Peter M Paulos	Atkins Environmental Toxicology Lab	<a href="mailto:Peter.Paulos@atkinglobal.com">Peter.Paulos@atkinglobal.com</a>	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	<a href="mailto:Lynn.Bradley@nelac-institute.org">Lynn.Bradley@nelac-institute.org</a>	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
7	Review draft response to questions, as provided by Rami, and submit comments	All members	Draft is repeated below	Active until October meeting
8	Submit audit findings for discussion at WET Assessment Forum	All members	No later than July 15 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.
10				

### 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 guidance 9.4.4.1: "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.