

**TNI Chemistry FoPT Subcommittee
Meeting Summary
October 23, 2012**

1. Roll call and Meeting Minutes:

Chair Carl Kircher called the meeting of the Chemistry FoPT Subcommittee to order on October 23, 2012 at noon EST. Attendance is recorded in Attachment A.

The minutes for July 31st and early May will be helpful when reviewing the NPW table distributed by Carl.

2. NPW FoPT Table

Message distributed by Carl:

Dear Subcommittee Members,

I apologize for getting so bogged down that I could not get these attached files out to you sooner. I have made the changes to the final draft NPW FoPT Table that Jeff Lowry mentioned last week. Additional comments are below (questions that Jeff asked about that I researched the answers for):

- Orthophosphate was re-evaluated on 7/31/2012, and the Subcommittee voted to revise the acceptance criteria to AV +/- 15% fixed at that time.*
- Also, on 7/31/2012, the Subcommittee re-evaluated and voted to re-instate Hexachlorocyclopentadiene and 3,3'-Dichlorobenzidine as NPW FoPTs but with the presently tabulated regression equations and coefficients. Benzidine will still be recommended for deletion as NPW FoPT.*
- My recommended revised language to deal with BOD and CBOD in Footnote 10c is included. Please let me know what you all think (please recommend improvements if you can).*

I am sorry that I do not have the time now to go through all the BOD and CBOD treatise. I hope that Ilona captures it all from the recorded teleconference notes. I have provided Footnote 10c language that should provide a marked improvement. However, if we want to open a "big can of worms" to resolve the potential controversial implications, I am okay to dissect the entire BOD and CBOD FoPT issue as a Subcommittee at the next teleconference.

However, as a start, please let me present my "if I were king" proposal on how I would deal with BOD and CBOD:

- I would eliminate CBOD as FoPT.*

- *I would add a Footnote recommending that to be accredited for CBOD, laboratories should participate and pass the PTs for BOD. All analytical steps should be followed as for analyzing CBOD samples, except that nitrification inhibitor should not be added to the PT sample dilutions.*

Please let me know what you all think.

Joe commented on Footnote 10 k: You are not going to get a grease contingent for the oil doing it this way. Carl asked how it should be re-worded? Jeff and Dan provided information on what they are doing. Jeff suggested also looking at the footnotes for TPH and Oil & Grease. It was decided that no changes needed to be made.

No changes were requested for 10c.

A motion was made by Stephen to accept the NPW table as distributed by e-mail by Carl and included in Attachment B. The motion was seconded by Jeff Lowry. A roll call vote was taken.

Roll call vote:

For – Carl, Jeff, Steve, Dan, Melanie and Joe.

Against – 0

Abstain - 0

Carl will send an e-mail to Stacey to obtain her vote. He will give Stacey and everyone until Friday to vote or change their vote if any issues are found.

(10/24/12 - Result: Stacey – For. Motion passed unanimously.)

Carl will prepare a draft cover letter for the subcommittee to review. Everyone will have a week to review it and make comments. When it is completed it will be forwarded with the table to the PTP EC.

3. Action Items

See action item table in attachments.

4. New Business

- Carl will find out the status on solid and chemical waste (SCW) data to start the next FoPT table update.

5. Next Meeting

The next meeting of the Chemistry FoPT Subcommittee will be November 6, 2012, at 12:00 PM EST.

Action Items are included in Attachment C and Attachment D includes a listing of reminders.

Stephen motioned to adjourn the meeting and Stacey seconded the motion. Unanimously approved. The meeting was adjourned at 12:48 pm EST.

Attachment A

Participants TNI Chemistry FoPT Subcommittee

Members	Affiliation	Contact Information
Carl Kircher, Chair Present	Florida DOH	904-791-1574 carl_kircher@doh.state.fl.us
Joe Marotti Present	Sigma-Aldrich RTC	307-721-5485 jmorotti@sial.com
Melanie Ollila Present	Pace Analytical Services, Inc.	612-607-6352 MOllila@pacelabs.com
Jeff Lowry Present	Phenova	720-560-2232 JeffL@phenova.com
Stephen Arpie Present	Absolute Standards, Inc.	203-281-2917 stephenarpie@mac.com
Dan Dickinson Present	New York, DOH	518-485-5570 dmd15@health.state.ny.us
Stacey Fry Absent	E.S. BABCOCK & Sons, Inc.	951-653-3351 x238 sfry@babcocklabs.com
Ilona Taunton, Program Administrator Present	TNI	828-712-9242 tauntoni@msn.com

Attachement B

NELAC PT for Accreditation Fields of Proficiency Testing with PTRLs Non-Potable Water (NPW) Effective July 1, 2013

Final 9/25/2012

Red = Previous Experimental Analytes

Blue = New Analyte/Header

Magenta = Changes

Matrix	EPA Analyte Code	NELAC Analyte Code	Analyte ^{1,2}	Conc Range	Acceptance Criteria ^{3,4,5,6}				NELAC PTRL ⁷
					a	b	c	d	
			Microbiology	CFU/100 mL					CFU/100 mL
NPW	0233	2500	Total Coliform, MF ⁸	20 to 2400	Log transform; ±3 SD				2
NPW	0235	2530	Fecal Coliform, MF ⁸	20 to 2400	Log transform; ±3 SD				2
NPW		2525	E.coli, MF ⁸	20 to 2400	Log transform; ±3 SD				2
NPW		2520	Enterococci, MF ⁸	20 to 1000	Log transform; ±3 SD				2
				MPN/100 mL					MPN/100 mL
NPW	0234	2500	Total Coliform, MPN ⁹	20 to 2400	Log transform; ±3 SD				2
NPW	0236	2530	Fecal Coliform, MPN ⁹	20 to 2400	Log transform; ±3 SD				2
NPW		2525	E.coli, MPN ⁹	20 to 2400	Log transform; ±3 SD				2
NPW		2520	Enterococci, MPN ⁹	20 to 1000	Log transform; ±3 SD				2
			Trace Metals	µg/L					µg/L
NPW	0001	1000	Aluminum	200 to 4000	0.9823	9.5889	0.0471	11.2110	144
NPW	0016	1005	Antimony	90 to 900	0.9864	-1.1174	0.0471	6.1230	57
NPW	0002	1010	Arsenic	90 to 900	0.9916	1.2647	0.0422	5.1741	64
NPW	0237	1015	Barium	100 to 2500	±15% fixed acceptance limit				85
NPW	0003	1020	Beryllium	50 to 500	±15% fixed acceptance limit				42
NPW		1025	Boron	800 to 2000	±15% fixed acceptance limit				680

NPW	0004	1030	Cadmium	100 to 1000					±15% fixed acceptance limit	85
NPW	0006	1040	Chromium, total	100 to 1000					±15% fixed acceptance limit	85
NPW	0238	1045	Chromium VI	90 to 900	0.9917	1.0232	0.0476	2.2011		71
NPW	0005	1050	Cobalt	100 to 1000					±15% fixed acceptance limit	85
NPW	0007	1055	Copper	100 to 1000					±15% fixed acceptance limit	85
NPW	0008	1070	Iron	200 to 4000					±15% fixed acceptance limit	170
NPW	0012	1075	Lead	100 to 1500					±15% fixed acceptance limit	85
NPW	0010	1090	Manganese	200 to 2000					±15% fixed acceptance limit	170
NPW	0009	1095	Mercury ^{10a}	3.0 to 30					±30% fixed acceptance limit	0.9
NPW	0074	1100	Molybdenum	60 to 600	0.9953	-0.1614	0.0372	2.5555		45
NPW	0011	1105	Nickel	200 to 2000	1.0012	1.5795	0.0368	3.8151		168
NPW	0013	1140	Selenium	100 to 1000					±15% fixed acceptance limit	85
NPW	0017	1150	Silver	100 to 1000					±15% fixed acceptance limit	85
NPW	0075	1160	Strontium	50 to 500					±15% fixed acceptance limit	42
NPW	0018	1165	Thallium	80 to 800	0.9932	-0.9634	0.0479	4.2361		54
NPW	0239	1175	Tin	200 to 2000					±30% fixed acceptance limit	60
NPW	0076	1180	Titanium	60 to 300					±15% fixed acceptance limit	51
NPW	0014	1185	Vanadium	50 to 2000					±15% fixed acceptance limit	42
NPW	0015	1190	Zinc	300 to 2000					±15% fixed acceptance limit	255
Demands ^{10b}				mg/L						mg/L
NPW	0038	1530	5-day BOD ^{10c}	18 to 230	0.6237	0.7022	0.0928	0.6636		4.9
NPW	0102	1555	Carbonaceous BOD ^{10c}	18 to 230	0.5648	0.6665	0.0965	0.8253		3.1
NPW	0036	1565	COD ^{10d}	30 to 250	0.9843	-0.3171	0.0432	3.0191		16
NPW	0037	2040	TOC ^{10e}	6.0 to 100	0.9926	0.1680	0.0473	0.3536		4.2
Minerals				mg/L						mg/L
NPW	0027	1505	Alkalinity, total (CaCO ₃)	25 to 400					±20% fixed at 25-40; ±15% fixed at 40-200 mg/L	20
NPW		1540	Bromide	1.0 to 10	1.0098	-0.0533	0.0400	0.0912		0.56
NPW	0023	1035	Calcium	10 to 100					±15% fixed acceptance limit	8.5
NPW	0028	1575	Chloride	35 to 275	1.0005	0.0490	0.0376	0.3716		30
NPW	0029	1730	Fluoride	0.4 to 4	0.9748	0.0156	0.0487	0.0277		0.26
NPW		1550	Calcium hardness as CaCO ₃	25 to 250					±15% fixed acceptance limit	21
NPW	0022	1755	Hardness, total (CaCO ₃)	40 to 415					±15% fixed acceptance limit	34
NPW	0024	1085	Magnesium	4.0 to 40					±15% fixed acceptance limit	3.4
NPW	0026	1125	Potassium	4.0 to 40					±20% fixed acceptance limit	3.2

NPW	0025	1155	Sodium	10 to 100 200 to 1200	±20% fixed acceptance limit				8.0
NPW	0020	1610	Spec. Cond. (25°C)	µmhos/cm	±10% fixed acceptance limit				180 µmhos/cm
NPW	0030	2000	Sulfate	5.0 to 125	0.9880	-0.2130	0.0473	0.3309	3.0
NPW		2005	Sulfide	2.0 to 10	0.9657	-0.1271	0.1205	0.2816	0.20
NPW	0021	1955	Total Dissolved Solids at 180°C	140 to 800	1.0000	0.0000	0.0000	15.0000	95
NPW	0105	1950	Total Solids	140 to 800	1.0000	0.0000	0.0000	15.0000	95
Nutrients				mg/L					mg/L
NPW	0031	1515	Ammonia as N	1.0 to 20	0.9923	0.0567	0.0583	0.0914	0.60
NPW	0032	1810	Nitrate as N	2.0 to 25	0.9975	-0.0005	0.0506	0.0642	1.50
NPW		1820	Nitrate-nitrite as N	2.5 to 25	0.9957	-0.0010	0.0509	0.0400	1.99
NPW		1840	Nitrite as N	0.4 to 4.0	1.0017	-0.0030	0.0377	0.0250	0.28
NPW	0033	1870	Orthophosphate as P	0.5 to 5.5	±15% fixed acceptance limit				0.42
NPW	0034	1795	Total Kjeldahl-Nitrogen ^{10f}	3.0 to 35	0.9701	0.2283	0.0680	0.1906	1.95
NPW	0035	1910	Total Phosphorus	0.5 to 10	0.9932	0.0084	0.0506	0.0254	0.35
Misc. Analytes				mg/L					mg/L
NPW		1500	Acidity, as CaCO3	650 to 1800 10 to 75 PC	±10% fixed acceptance limit				585
NPW		1605	Color	units	0.9474	0.6098	0.0367	2.4407	1.7 PC units
NPW	0072	1960	Total Suspended Solids	20 to 100	1.0000	0.0000	0.0000	2.5000	13
NPW	0019	1900	pH ^{10g}	5.0 to 10 units	± 0.2 units fixed acceptance limit				Not applicable
NPW	0071	1645	Total Cyanide ^{10h}	0.1 to 1	±35% fixed acceptance limit				0.065
NPW	0097	1905	Total Phenolics (4AAP) ¹⁰ⁱ	0.5 to 5	0.6408	0.0250	0.1038	0.0082	0.16
NPW	0098	1940	Total Residual Chlorine	0.5 to 3.0	0.9345	0.0392	0.0688	0.0073	0.38
NPW		1965	Settleable solids	5.0 to 50 mL/L	1.0436	-0.0108	0.0597	0.4546	2.9 mL/L
NPW		1990	Silica as SiO2	50 to 250	±25% fixed acceptance limit				38
NPW		2025	Surfactants - MBAS	0.2 to 1.0	1.0421	-0.0068	0.1326	0.0046	0.10
NPW		2055	Turbidity ^{10j}	2.0 to 30 NTU	1.0040	-0.0368	0.0475	0.1575	1.2 NTU
NPW		1970	Volatile solids, Total	100 to 500	0.9644	-4.7559	0.0182	14.9450	41
Low Level Analytes ¹²									
NPW		1095	Mercury ^{10a}	20 to 100 ng/L	0.9910	0.2064	0.0432	2.5774	9.7
NPW		1940	Total Residual Chlorine	50 to 250 µg/L	1.0000	0.0000	0.0000	20.0000	5.0

Purge and Trap Organic Parameters

			Volatile Aromatics ¹				$\mu\text{g/L}$	$\mu\text{g/L}$	
NPW	0065	4375	Benzene	10 to 120	$\pm 30\%$ fixed acceptance limit				7.0
NPW	0094	4610	1,2-Dichlorobenzene	10 to 120	$\pm 30\%$ fixed acceptance limit				7.0
NPW	0096	4615	1,3-Dichlorobenzene	10 to 120	$\pm 30\%$ fixed acceptance limit				7.0
NPW	0095	4620	1,4-Dichlorobenzene	10 to 120	$\pm 30\%$ fixed acceptance limit				7.0
NPW	0066	4765	Ethylbenzene	10 to 120	$\pm 30\%$ fixed acceptance limit				7.0
NPW	0222	5005	Naphthalene	15 to 150	0.8785	1.4343	0.1335	0.7561	6.3
NPW		5100	Styrene	20 to 120	$\pm 35\%$ fixed acceptance limit				13.0
NPW	0067	5140	Toluene	10 to 120	$\pm 30\%$ fixed acceptance limit				7.0
NPW	0092	5155	1,2,4-Trichlorobenzene	15 to 150	0.9160	-1.3028	0.1473	0.5100	4.3
NPW		5210	1,2,4-Trimethylbenzene	10 to 120	$\pm 35\%$ fixed acceptance limit				6.5
NPW		5215	1,3,5-Trimethylbenzene	10 to 120	$\pm 35\%$ fixed acceptance limit				6.5
NPW		5240	m/p-Xylenes	10 to 150	$\pm 40\%$ fixed acceptance limit				6.0
NPW		5250	o-Xylene	10 to 150	$\pm 40\%$ fixed acceptance limit				6.0
NPW	0242	5260	Xylenes, total ¹²	20 to 300	$\pm 40\%$ fixed acceptance limit				12

			Volatile Ketones/Ethers ¹				$\mu\text{g/L}$	$\mu\text{g/L}$	
NPW		4315	Acetone	20 to 200	0.8856	3.5838	0.2028	1.7474	3.9
NPW		4860	2-Hexanone	20 to 200	1.0054	-1.1748	0.1534	1.7764	4.4
NPW		4995	4-Methyl-2-pentanone (MIBK)	20 to 200	1.0022	-1.0337	0.0934	4.1819	2.0
NPW		5000	Methyl tert-butyl ether (MTBE)	15 to 150	1.0233	-0.3620	0.1112	0.3083	9.0

Purge and Trap Organic Parameters

			Volatile Halocarbons ¹				$\mu\text{g/L}$	$\mu\text{g/L}$	
NPW	0060	4395	Bromodichloromethane	10 to 100	$\pm 40\%$ fixed acceptance limit				6.0
NPW	0062	4400	Bromoform	10 to 100	$\pm 40\%$ fixed acceptance limit				6.0
NPW	0243	4950	Bromomethane	20 to 120	$\pm 60\%$ fixed acceptance limit				8.0
NPW	0058	4455	Carbon tetrachloride	15 to 150	0.9577	0.0612	0.1269	0.3443	7.7
NPW	0064	4475	Chlorobenzene	10 to 120	$\pm 30\%$ fixed acceptance limit				7.0
NPW	0244	4485	Chloroethane	20 to 120	$\pm 60\%$ fixed acceptance limit				8.0
NPW	0055	4505	Chloroform	10 to 100	$\pm 30\%$ fixed acceptance limit				7.0
NPW	0245	4960	Chloromethane	20 to 120	$\pm 60\%$ fixed acceptance limit				8.0
NPW	0061	4575	Dibromochloromethane	10 to 100	$\pm 40\%$ fixed acceptance limit				6.0
NPW		4570	1,2-Dibromo-3-chloropropane (DBCP)	15 to 150	$\pm 40\%$ fixed acceptance limit				9.0
NPW		4585	1,2-Dibromoethane (EDB)	10 to 120	$\pm 35\%$ fixed acceptance limit				6.5

NPW	4595	Dibromomethane	10 to 120	±35% fixed acceptance limit				6.5	
NPW	4630	1,1-Dichloroethane	10 to 150	0.9977	0.2117	0.1227	0.0174	6.4	
NPW	0054	4635	1,2 Dichloroethane	15 to 150	0.9843	1.3728	0.0912	0.4693	10.6
NPW	0246	4640	1,1-Dichloroethene	10 to 150	1.0034	0.6630	0.1447	0.0521	6.2
NPW	4645	cis-1,2-Dichloroethene	10 to 150	0.9973	0.3699	0.1095	0.0036	7.0	
NPW	0247	4700	trans-1,2-Dichloroethene	10 to 120	±40% fixed acceptance limit				6.0
NPW	0248	4655	1,2-Dichloropropane	10 to 150	±30% fixed acceptance limit				7.0
NPW	4680	cis-1,3-Dichloropropene	10 to 120	±35% fixed acceptance limit				6.5	
NPW	0249	4685	trans-1,3-Dichloropropene	10 to 120	±35% fixed acceptance limit				6.5
NPW	0063	4975	Methylene Chloride	10 to 120	±40% fixed acceptance limit				6.0
NPW	5105	1,1,1,2-Tetrachloroethane	15 to 150	±35% fixed acceptance limit				9.8	
NPW	0250	5110	1,1,2,2-Tetrachloroethane	15 to 150	±35% fixed acceptance limit				9.8
NPW	0059	5115	Tetrachloroethene	10 to 150	0.9416	-0.5063	0.1189	0.3441	4.3
NPW	0056	5160	1,1,1-Trichloroethane	10 to 100	±40% fixed acceptance limit				6.0
NPW	0251	5165	1,1,2-Trichloroethane	15 to 150	±30% fixed acceptance limit				10.5
NPW	0057	5170	Trichloroethene	10 to 100	0.9611	0.5720	0.1077	0.2478	6.2
NPW	0252	5175	Trichlorofluoromethane	20 to 120	± 60% fixed acceptance limit				8.0
NPW	5180	1,2,3-Trichloropropane	15 to 150	0.9867	-0.4721	0.1630	0.9605	4.1	
NPW	0253	5235	Vinyl chloride	20 to 120	± 60% fixed acceptance limit				8.0

Volatile Petroleum Hydrocarbons

			µg/L					µg/L
NPW	9408	Gasoline range organics (GRO) ¹³	400 to 4000	1.0683	-7.7234	0.2162	35.0439	55

Extractable Organic Parameters

			Base/Neutrals ¹	µg/L					µg/L
NPW	0189	5500	Acenaphthene	10 to 200	0.7748	0.8506	0.1427	0.1159	4.0
NPW	0190	5505	Acenaphthylene	10 to 200	0.8029	-0.2974	0.1485	0.1111	2.9
NPW	0192	5555	Anthracene	10 to 200	0.7986	1.7870	0.1229	0.7303	3.9
NPW	0176	5595	Benzidine	200 to 1000	1.167	-12.268	0.579	-0.301	20
NPW	0177	5575	Benzo(a)anthracene	10 to 200	0.8381	0.5699	0.1162	0.6075	3.6
NPW	0254	5670	Benzyl butyl phthalate	50 to 200	0.8496	-2.1863	0.1776	0.0752	13.4
NPW	0178	5585	Benzo(b)fluoranthene	20 to 200	0.8327	0.1531	0.1497	0.1078	7.5
NPW	0179	5600	Benzo(k)fluoranthene	20 to 200	0.8223	1.996	0.1862	1.126	7.7
NPW	0180	5590	Benzo(g,h,i)perylene	10 to 200	0.8261	1.5562	0.1556	0.0166	5.1
NPW	0255	5580	Benzo(a)pyrene	10 to 200	0.8207	-0.0550	0.1484	0.4349	2.4

NPW	0198	5660	4-Bromophenyl-phenylether	20 to 200	0.8081	3.0645	0.1325	0.8996	8.6
NPW	0195	5760	bis(2-Chloroethoxy)methane	20 to 200	0.7615	0.4890	0.1193	1.5633	3.9
NPW	0196	5765	bis(2-Chloroethyl)ether	20 to 200	0.7090	2.3607	0.1529	0.4801	5.9
NPW	0197	5780	bis(2-Chloroisopropyl) ether	30 to 200	0.7285	1.6917	0.1303	2.9025	3.1
NPW	0256	6065	Bis(2-ethylhexyl) phthalate	20 to 200	0.8065	2.5761	0.1474	1.6124	5.0
NPW	0204	5825	4-Chlorophenyl-phenylether	20 to 200	0.7669	3.7466	0.1417	0.2303	9.9
NPW	0203	5795	2-Chloronaphthalene	20 to 200	0.7102	2.4854	0.1477	0.5079	6.3
NPW	0181	5855	Chrysene	10 to 200	0.8180	2.3274	0.1351	0.2137	5.8
NPW	0182	5895	Dibenzo(a,h)anthracene	20 to 200	0.8079	2.3890	0.1497	0.8729	6.9
NPW		5905	Dibenzofuran	30 to 200	0.7411	2.7181	0.1159	1.0735	11.3
NPW		4610	1,2-Dichlorobenzene	20 to 200	0.6365	0.7906	0.1517	2.2155	2.0
NPW		4615	1,3-Dichlorobenzene	20 to 200	0.5921	3.0260	0.1787	0.3464	3.1
NPW		4620	1,4-Dichlorobenzene	20 to 200	0.5671	3.6005	0.1640	0.4826	3.7
NPW	0185	5945	3,3'-Dichlorobenzidine	50 to 200	0.901	-0.5596	0.199	2.5071	5.0
NPW	0208	6070	Diethyl phthalate	50 to 200	0.7492	3.3637	0.1805	2.0213	8.9
NPW	0209	6135	Dimethyl phthalate	50 to 200	0.6375	3.9631	0.2524	0.8174	11.5
NPW	0205	5925	Di-n-butyl phthalate	40 to 200	0.7797	5.1233	0.1490	0.8776	15.8
NPW	0186	6185	2,4-Dinitrotoluene	20 to 200	0.8219	0.4137	0.1183	1.7449	4.5
NPW	0210	6190	2,6-Dinitrotoluene	20 to 200	0.7999	0.4770	0.1316	0.1368	8.2
NPW	0211	6200	Di-n-octyl phthalate	30 to 200	0.8186	2.8779	0.1724	1.2382	8.2
NPW	0212	6265	Fluoranthene	30 to 200	0.8087	2.9863	0.1272	0.0642	15.6
NPW	0213	6270	Fluorene	10 to 200	0.7619	3.7583	0.1165	1.0349	4.8
NPW	0214	6275	Hexachlorobenzene	20 to 200	0.8202	0.2263	0.1238	0.1297	8.8
NPW	0215	4835	Hexachlorobutadiene	50 to 200	0.6286	2.6591	0.1616	1.9082	4.3
NPW	0216	6285	Hexachlorocyclopentadiene	50 to 200	0.6216	-4.4226	0.2049	4.3222	5.0
NPW	0217	4840	Hexachloroethane	50 to 200	0.5921	-0.0657	0.1640	0.5308	3.3
NPW	0218	6315	Indeno(1,2,3, cd)pyrene	30 to 200	0.7115	5.0289	0.1430	1.4299	9.2
NPW	0219	6320	Isophorone	20 to 200	0.7981	0.7053	0.1437	0.3000	7.1
NPW		6385	2-Methylnaphthalene	20 to 200	0.6983	2.0844	0.1361	2.1436	2.0

Extractable Organic Parameters

				Base/Neutrals ¹ cont'	µg/L					µg/L
NPW	0222	5005	Naphthalene	20 to 200	0.6749	3.5514	0.1441	1.2975	4.5	
NPW	0226	5015	Nitrobenzene	20 to 200	0.7463	0.9864	0.1388	0.4589	6.2	
NPW	0227	6530	N-Nitrosodimethylamine	75 to 200	0.4665	7.3433	0.1652	3.9997	7.5	
NPW	0230	6545	N-Nitroso-di-n-propylamine	30 to 200	0.7913	-0.0510	0.1541	0.1328	9.4	

NPW	0229	6535	N-Nitrosodiphenylamine	30 to 200	0.7740	0.6711	0.2016	0.0494	5.6
NPW	0231	6615	Phenanthrene	10 to 200	0.8001	2.8698	0.1110	0.9485	4.7
NPW	0187	6665	Pyrene	10 to 200	0.8476	1.0097	0.1490	0.0530	4.9
NPW	0092	5155	1,2,4-Trichlorobenzene	20 to 200	0.6769	1.1166	0.1493	1.8128	2.0

Acids ¹

				µg/L					µg/L
NPW	0161	5700	4-Chloro-3-methylphenol	30 to 200	0.7998	0.6264	0.1421	0.0397	11.7
NPW	0162	5800	2-Chlorophenol	30 to 200	0.7292	1.4640	0.1518	0.0174	9.6
NPW	0163	6000	2,4-Dichlorophenol	30 to 200	0.7362	2.8458	0.1433	0.0585	11.9
NPW		6005	2,6-Dichlorophenol	30 to 200	0.7512	3.7563	0.1564	0.0312	12.1
NPW	0165	6130	2,4-Dimethylphenol	40 to 200	0.7496	1.4509	0.1601	0.0953	11.9
NPW	0167	6175	2,4-Dinitrophenol	100 to 200	0.6531	3.5920	0.1695	8.5727	10
NPW	0168	6360	2-Methyl-4,6-Dinitrophenol	40 to 200	0.8108	3.6290	0.1573	2.1683	10.7
NPW		6400	2-Methylphenol (o-Cresol)	40 to 200	0.6821	2.2126	0.1529	0.5485	9.5
NPW		6410	4-Methylphenol (p-Cresol) ¹⁴	50 to 200	0.6531	2.1854	0.2008	0.7807	5.0
NPW	0171	6490	2-Nitrophenol	50 to 200	0.7631	1.1486	0.1272	2.4547	12.9
NPW	0173	6500	4-Nitrophenol	100 to 200	0.5591	-1.0075	0.2511	1.9409	10
NPW	0174	6625	Phenol	100 to 200	0.557	0.5929	0.253	1.0269	10
NPW	0158	6605	Pentachlorophenol	40 to 200	0.8469	-0.7338	0.1561	1.5178	9.9
NPW	0175	6835	2,4,5-Trichlorophenol	30 to 200	0.7726	3.2199	0.1362	0.9916	11.2
NPW	0159	6840	2,4,6-Trichlorophenol	30 to 200	0.7880	0.8051	0.1406	0.0280	11.7

Extractable Organic Parameters

PCBs in Water ²

				µg/L					µg/L
NPW	0040	8880	Aroclor 1016	2.0 to 10	0.8318	0.1991	0.1591	0.0384	0.8
NPW	0041	8885	Aroclor 1221	2.0 to 10	0.8318	0.1991	0.1591	0.0384	0.8
NPW	0042	8890	Aroclor 1232	2.0 to 10	0.8318	0.1991	0.1591	0.0384	0.8
NPW	0040	8895	Aroclor 1242	2.0 to 10	0.8318	0.1991	0.1591	0.0384	0.8
NPW	0044	8900	Aroclor 1248	2.0 to 10	0.8318	0.1991	0.1591	0.0384	0.8
NPW	0045	8905	Aroclor 1254	2.0 to 10	0.8318	0.1991	0.1591	0.0384	0.8
NPW	0046	8910	Aroclor 1260	2.0 to 10	0.8318	0.1991	0.1591	0.0384	0.8

Organochlorine Pesticides ¹

				µg/L					µg/L
NPW	0047	7025	Aldrin	1.0 to 15	0.8524	-0.0159	0.1655	0.0002	0.34
NPW	0079	7110	alpha-BHC	2.0 to 20	0.8996	0.0151	0.1505	0.0349	0.81
NPW	0080	7115	beta-BHC	2.0 to 20	0.8889	0.1961	0.1372	0.0777	0.92

NPW	0081	7105	delta-BHC	2.0 to 20	0.9031	0.1036	0.1525	0.0673	0.79
NPW	0082	7120	gamma-BHC (Lindane)	2.0 to 20	0.8959	0.1095	0.1528	0.0189	0.93
NPW		7240	alpha-Chlordane	1.0 to 10	0.8842	0.0542	0.1423	0.0348	0.41
NPW		7245	gamma-Chlordane	1.0 to 10	0.8617	0.1041	0.1323	0.0716	0.35
NPW	0053	7250	Chlordane (total)	3.0 to 25	0.8501	0.4121	0.1540	0.0381	1.46
NPW	0049	7355	4,4'-DDD	2.0 to 10	0.9271	0.03839	0.1227	0.1763	0.63
NPW	0050	7360	4,4'-DDE	1.0 to 10	0.8793	0.0718	0.1468	0.0395	0.39
NPW	0051	7365	4,4'-DDT	1.0 to 10	0.8987	0.1076	0.1680	0.0337	0.40
NPW	0048	7470	Dieldrin	1.0 to 15	0.9126	0.0323	0.1327	0.0240	0.47
NPW	0083	7510	Endosulfan I	4.0 to 20	0.8698	-0.0604	0.1548	0.0549	1.40
NPW	0084	7515	Endosulfan II	4.0 to 20	0.8765	0.0994	0.1490	0.0912	1.54
NPW	0085	7520	Endosulfan sulfate	4.0 to 20	0.8752	0.5312	0.1348	0.2091	1.79
NPW	0086	7540	Endrin	2.0 to 20	0.9183	0.0706	0.1594	0.0277	0.87
NPW	0087	7530	Endrin aldehyde	4.0 to 20	0.8585	0.4845	0.1571	0.2054	1.42
NPW		7535	Endrin ketone	4.0 to 20	0.8951	0.3702	0.1135	0.1902	2.0
NPW	0052	7685	Heptachlor	1.0 to 10	0.8470	0.0457	0.1596	0.0402	0.29
NPW	0078	7690	Heptachlor Epoxide (beta)	1.0 to 10	0.9176	0.0041	0.1342	0.0268	0.44
NPW	0234	7810	Methoxychlor	2.0 to 20	0.9115	0.2801	0.1467	0.2290	0.54
NPW	0241	8250	Toxaphene	20 to 100	0.8087	1.8908	0.1991	0.5080	4.59

Extractable Organic Parameters

				Herbicides ¹					µg/L
NPW	0257	8545	2,4-D	2 to 10	0.7204	0.2995	0.2543	0.0297	0.20
NPW	0258	8595	Dicamba	2 to 10	0.7848	0.2788	0.1754	0.1455	0.40
NPW	0140	8655	2,4,5-T	2 to 10	0.8132	0.1393	0.1850	0.1353	0.20
NPW	0259	8650	2,4,5-TP (Silvex)	2 to 10	0.8349	0.1516	0.2046	0.0195	0.50

				Low Level PAHs ¹					µg/L
NPW		5500	Acenaphthene	2.0 to 20	0.7600	0.1476	0.1456	0.0021	0.79
NPW		5505	Acenaphthylene	2.0 to 20	0.7856	0.0418	0.1133	0.0687	0.73
NPW		5555	Anthracene	0.5 to 5.0	0.8151	0.0194	0.1714	0.0115	0.14
NPW		5575	Benzo(a)anthracene	0.5 to 5.0	0.9012	-0.0236	0.0614	0.0462	0.20
NPW		5580	Benzo(a)pyrene	0.5 to 5.0	0.7745	0.0824	0.1162	0.0270	0.21
NPW		5585	Benzo(b)fluoranthene	0.5 to 5.0	0.8217	0.0544	0.1167	0.0144	0.25
NPW		5590	Benzo(g,h,i)perylene	0.5 to 5.0	0.7683	0.0737	0.1641	0.0088	0.18
NPW		5600	Benzo(k)fluoranthene	0.5 to 5.0	0.8943	-0.0069	0.1245	0.0108	0.22

NPW	5855	Chrysene	0.5 to 5.0	0.8883	0.0132	0.1046	0.0235	0.23
NPW	5895	Dibenz(a,h)anthracene	0.5 to 5.0	0.7914	0.0640	0.1377	0.0520	0.10
NPW	6265	Fluoranthene	0.5 to 5.0	0.8565	0.0211	0.1064	0.0128	0.25
NPW	6270	Fluorene	2.0 to 10	0.7863	0.0472	0.1153	0.0631	0.74
NPW	6315	Indeno(1,2,3-cd)pyrene	0.5 to 5.0	0.8224	0.0623	0.1316	0.0267	0.20
NPW	5005	Naphthalene	2.0 to 10	0.7279	0.0977	0.1251	0.0803	0.56
NPW	6615	Phenanthrene	0.5 to 5.0	0.8332	0.0256	0.1099	0.0118	0.24
NPW	6665	Pyrene	0.5 to 5.0	0.8468	0.0435	0.1023	0.0095	0.28

Extractable Organic Parameters

		Petroleum Hydrocarbons						
		Diesel range organics (DRO) ¹⁵	800 to 6000					
NPW	9369		µg/L	0.7790	-96.0467	0.1386	109.1897	80 µg/L
NPW	0104	n-Hexane Extractable Material (O&G) ^{10k,16}	20 to 200	0.9400	-0.4116	0.0545	2.0789	8.8 mg/L
NPW	1935	non-Polar Extractable Material (TPH) ¹⁷	20 to 200	0.9692	-1.1573	0.1586	0.3709	7.6 mg/L

1) For volatiles, base/neutrals, acids, organochlorine pesticides, herbicides, and low level PAHs, providers must include a minimum number of analytes using the criteria described below:

PT samples that are to be scored for one to ten analytes must include all of these analytes.

PT samples that are to be scored for ten to twenty analytes must include at least ten of these analytes or 80% of the total, whichever number is greater.

PT samples that are to be scored for more than twenty analytes must include at least sixteen of these analytes or 60% of the total, whichever number is greater.

If the calculated percentage of the total number of analytes in the PT sample is a fraction, the fraction shall be rounded up to the next whole number.

2) One sample (minimum) in every study, containing one Aroclor, selected at random from among the Aroclors listed above.

3) Acceptance limits are set at the Mean \pm 3 SD

Where the a, b, c and d factors are presented, Mean = a*T + b; SD = c*T + d where T is the assigned value.

Where only the c and d factors are presented, Mean = Robust Study Mean; SD = c*X + d where X is the Robust Study Mean.

Where no factors are presented (Study Mean \pm 3SD), Mean = Robust Study Mean, SD = Robust Study Standard Deviation.

Robust Study Mean and Standard Deviation are generated using statistical analysis of study data set. (ie. Bi-weight, Grubbs, Dixon, etc.)

Quantitative Microbiology acceptance criteria are based on the robust participant Mean and SD determined from each respective PT study

4) If the lower acceptance limit generated using the criteria contained in this table is less than (<) 10% of the assigned value, the lower acceptance limits are set at 10% of the assigned value with the exception of microbiology analytes.

5) If the lower acceptance limit generated using the criteria contained in this table is greater than 90% of the assigned value, the lower acceptance limits are set at 90% of the assigned value with the exception of microbiology analytes.

6) If the upper acceptance limit generated using the criteria contained in this table is less than 110% of the assigned value, the upper acceptance limits are set at 110% of the assigned value with the exception of microbiology analytes.

7) NELAC Proficiency Testing Reporting Limits (PTRLs) are provided as guidance to laboratories analyzing NELAC PT samples. These levels are the lowest acceptable results that could be obtained from the lowest spike level for each analyte. The laboratory should report any positive result down to the PTRL. It is recognized that in some cases (especially for analytes that typically exhibit low recovery) the PTRL may be below the standard laboratory reporting limit. However, the laboratory should use a method that is sensitive enough to generate results at the PTRL shown. NELAC PTRLs are also provided as guidance to PT Providers. At a minimum for all analytes with an assigned value equal to "0", the PT Provider should verify that the sample does not contain the analyte at a concentration greater than or equal to the PTRL.

8) These limits are for quantitative methods using membrane filtration techniques.

9) These limits are for quantitative methods using most probable number techniques.

10) The following recommended sample designs, which were used in past USEPA studies, should be used as model designs because other designs

may not give equivalent statistics. PT study providers may vary their sample designs from those shown. The specifics within each sample are within the discretion of the PT study Provider.

a) Design criterion for Mercury – 1:1 (mole:mole as Hg) Mercuric Oxide and Methyl Mercuric Chloride.

b) Design criteria for Demands – 1:1 Glucose and Glutamic Acid.

c) Design criteria for 5-Day BOD and Carbonaceous BOD – The assigned value used for BOD and CBOD is **derived from the linear relationship between the BOD or CBOD value and the concentration of Glucose-Glutamic Acid (GGA) or Potassium Hydrogen Phthalate (KHP) used for the formulation.**
For example, 150 mg/L each of Glucose & Glutamic Acid produces a BOD of 198 mg/L, and 300 mg/L KHP produces a BOD of 240 mg/L.
0 mg/L GGA or KHP would produce a BOD value of 0 mg/L.

d) Design criterion for Chemical Oxygen Demand – The assigned value of COD is (1.066 times mg Glucose plus 0.9787 times mg Glutamic Acid) divided by total liters of sample adjusted for required dilutions.

e) Design criterion for Total Organic Carbon – The assigned value of TOC is (0.4000 times mg Glucose plus 0.4082 times mg Glutamic Acid) divided by total liters of sample adjusted for required dilutions.

f) Design criterion for Total Kjeldahl Nitrogen – Glycine is the source of TKN.

g) Design criterion for pH – in separate solution (use buffer formulation from [the CRC](#) chemical handbook).

h) Design criterion for Total Cyanide – Potassium Ferricyanide.

i) Design criterion for Total Phenolics (4AAP) – 40% Phenol, 20% 2-Chlorophenol, 20% 2,4-Dinitrophenol, 20% 2,4-Dichlorophenol (mole %), calculated as mg/L Phenol.

j) Design criterion for Turbidity - Formazin is the

source for Turbidity.

k) Design criterion for Oil and Grease – 1:1 Paraffin oil and cooking oil, vacuum pump oil, or similar mixture that does not contain volatile organics.

~~11) The Acceptance Criteria for Hardness, total (CaCO₃) is a function of the Lower Acceptance Limit (LAL) and Upper Acceptance Limit (UAL) of both~~

~~Calcium and Magnesium and are calculated as follows:~~

~~Lower Acceptance Limit = Ca LAL*2.497 + Mg LAL*4.118~~

~~Upper Acceptance Limit = Ca UAL*2.497 + Mg UAL*4.118~~

11) The Low Level Analytes' concentration ranges and acceptance criteria are specifically intended for technologies/methods that can achieve the listed PTRL.

12) Volatiles Aromatics must contain all three Xylene isomers. The concentration range of o-Xylene and m&p-Xylene is 10-150 µg/L each.

13) Gasoline Range Organics (GRO) per purge-and-trap extraction followed by chromatographic analysis. GRO is defined as the carbon range between n-C₅ and n-C₁₀.

14) Laboratories seeking or maintaining NELAP accreditation for Non-Potable Water 4-Methylphenol or the coeluting isomer pair of 3-Methylphenol and 4-Methylphenol must meet the NELAC PT requirements for this Field of Proficiency Testing (4-Methylphenol).

15) Diesel Range Organics (DRO) per solvent extraction followed by chromatographic analysis. DRO is defined as the carbon range between n-C₁₀ and n-C₂₈.

16) n-Hexane Extractable Material (HEM) per solvent extraction followed by gravimetric or infrared spectrometric analysis (Oil & Grease).

17) non-Polar Extractable Material per solvent extraction and Silica Gel Treated (SGT) followed by gravimetric or infrared spectrometric analysis (Total Petroleum Hydrocarbons).

Attachment C

Action Items – Chemistry FoPT Subcommittee

	Action Item	Who	Expected Completion	Actual Completion
13.	Prepare letter to ABs to find out their needs on analytes that may be under consideration for deletion. <i>(3/24/09 – It was determined that these tables are used by more than just ABs. This needs to be reconsidered.)</i>	TBD	Ongoing	
87	Discuss views on dropping problem analytes with the PTP EC.	Carl	Next PTP EC Meeting	
90	Confirm interest of subcommittee members that have not been on recent calls.	Carl	Next Meeting	
95	Update Excel Table and NPW FoPT table for final review.	Carl	10/9/12	Complete
96	Update Excel Table and NPW FoPT for Final Vote.	Carl	10/25/12	
97	Get e-mail vote from Stacey.	Carl	10/26/12	
98	Write cover letter for NPW table for distribution to PTPEC.	Carl	11/2/12	
99				

Attachment D

Backburner / Reminders – Chemistry FoPT Subcommittee

	Item	Meeting Reference	Comments
4	Consider nomenclature differences between the analyte codes and the FoPT tables.	2-23-10	
7	Review completed NPW table and look for grouped analytes that behave similarly and look for consistent criteria. Compare results to Drinking Water values too.	11-30-10	
9	Prepare a News flash and article when the new NPW FoPT table is approved.	9-25-12	
10			