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DATE: July 14, 2015

TO: RMP Steering Committee

FROM: Philip Trowbridge, RMP Manager

RE: Request for Undesignated Funds for Monitoring CTR Parameters during the 2015 Water Cruise

REQUESTED ACTION

The 2015 RMP S&T Water Cruise, scheduled for August-September 2015, presents a cost-effective opportunity to update measurements of California Toxics Rule parameters in ambient Bay water, as a monitoring vessel is already paid for. \$26,000 is requested to fund the 2015 monitoring and reporting of a reduced set of CTR parameters not measured by the RMP since 2003. *(Recommended by the Technical Review Committee on 6/30/15)*

FISCAL SITUATION

Undesignated Funds Balance: \$610,916 (as of 7/14/15).

EXPLANATION

The California Toxics Rule (CTR; 40 CFR 131) established numeric water quality objectives for 126 pollutants ranging from volatile organic compounds, dioxins, and pesticides to metals and asbestos. In 2001, the San Francisco Bay Regional Water Quality Control Board issued a Water Code Section 13267 Letter to dischargers, requiring that major dischargers monitor monthly for the 126 compounds outlined in the CTR as well as tributyltin, chlorpyrifos, diazinon, and ancillary parameters in effluent. While most of these pollutants are not expected to have elevated concentrations in the Bay, monitoring for the full suite of CTR and 13267 Letter parameters in effluent and in-Bay ambient receiving waters is needed for Reasonable Potential Analysis calculations for NPDES permits.

The RMP last measured the full suite of CTR parameters and other 13267 Letter parameters in 2003. This means that Reasonable Potential Analyses are currently being conducted using data that are more than 10 years old. On 6/30/15, the TRC discussed the option of adding CTR parameters, other 13267 Letter parameters, and emerging contaminants broadscan surveys to the

S&T Water Cruise monitoring element on a more frequent basis. The immediate benefit of this monitoring would be to provide more recent data for Reasonable Potential Analyses calculations. Inclusion of CTR monitoring during the 2015 S&T Water Cruise in August-September 2015 will result in a cost-savings of nearly \$20,000 as a result of shared vessel costs.

Additionally, increased monitoring of CTR parameters of the RMP presents a potential source of new revenue for the RMP. POTWs spend on the order of \$200,000 per year on effluent monitoring of CTR and other 13267 Letter parameters, even though most results are reported as “non-detect”. After the proposed CTR monitoring is completed in 2015, the RMP would conduct an expedited review of the frequency and need for CTR parameter monitoring in ambient Bay waters. The Water Board will review the possibility of reducing the requirements of CTR sampling in effluent in exchange for more frequent RMP monitoring in receiving waters, and the future cost savings realized by the POTWs could be a new source of revenue for the RMP.

The bigger decision on exchanging POTW effluent monitoring for RMP S&T ambient receiving water monitoring of CTR and other 13267 Letter parameters will take time to resolve. However, if the Steering Committee wants to add CTR parameter monitoring to the 2015 S&T Water Cruise, a decision must be made to allocate \$26,000 of Undesignated Funds at this meeting.

Table 1 presents the list of monitoring parameters and analytical methods required by the 13267 letter, and the list of parameters the RMP proposes to monitor in 2015. Parameters that have been measured recently, during an RMP S&T Water Cruise in 2011 or 2013, would not be monitored in 2015. The reduced set of parameters to be measured in 2015 includes 75 CTR parameters, tributyltin, total hardness, pH, and salinity. All parameters will be analyzed using methods suggested in the 1327 Letter or alternative analysis methods will meet the minimum detection levels established by the Letter.

Table 2 is the budget for monitoring this reduced list of parameters during the 2015 RMP S&T Water Cruise. Samples will be collected at three historical locations routinely monitored by the S&T Water Cruise - the Sacramento River, Yerba Buena Island, and Dumbarton Bridge monitoring sites - with the exception of asbestos, which the Regional Board has approved to be monitored only at the Sacramento River monitoring station. The total analytical cost will be \$7,700; the total labor cost for study planning and coordination, data management, and report writing will be \$17,000; and other direct costs, including field supplies and shipping, will be \$1,300. About \$20,000 in vessel costs will be saved by collecting samples during the 2015 RMP S&T Water Cruise. The total cost of monitoring and reporting the reduced set of CTR and 13267 Letter parameters in 2015 is \$26,000.

Table 1
Proposed Analytes Monitored at CTR Monitoring Sites during 2015 RMP S&T Water Cruise

CTR No.	Analyte Name	Analyte Group	Last Sampled by RMP in Ambient Bay Water	Sample in 2015?	Analysis Method
1	Antimony	Metals	2002-2003	x	EPA 200.8
2	Arsenic	Metals	2013		
3	Beryllium	Metals	2002-2003	x	EPA 200.8
4	Cadmium	Metals	2013		
5a	Chromium III	Trace Elements	2002-2003	x	SFBRWQCB approved measurement of Total Chromium (EPA 200.8)
5b	Chromium VI	Trace Elements	2002-2003	x	SFBRWQCB approved measurement of Total Chromium (EPA 200.8)
6	Copper	Metals	2013		
7	Lead	Metals	2013		
8	Mercury	Metals	2013		
9	Nickel	Metals	2013		
10	Selenium	Metals	2013		
11	Silver	Metals	2013		
12	Thallium	Metals	2002-2003	x	EPA 200.8
13	Zinc	Metals	2013		
14	Cyanide	Other	2015		
15	Asbestos	Other	--	x	EPA 100.1/100.2
16	2, 3, 7, 8-TCDD Dioxin	Dioxins	2011		
17	Acrolein	VOCs	2002-2003	x	EPA 624
18	Acrylonitrile	VOCs	2002-2003	x	EPA 624
19	Benzene	PAHs	2002-2003	x	EPA 624
20	Bromoform	VOCs	2002-2003	x	EPA 624
21	Carbon Tetrachloride	VOCs	2002-2003	x	EPA 624
22	Chlorobenzene	Pesticides	2002-2003	x	EPA 624
23	Chlorodibromomethane	Pesticides	2002-2003	x	EPA 624
24	Chloroethane	VOCs	2002-2003	x	EPA 624
25	2-Chloroethylvinyl Ether	VOCs	2002-2003	x	EPA 624
26	Chloroform	VOCs	2002-2003	x	EPA 624
27	Dichlorobromomethane	VOCs	2002-2003	x	EPA 624
28	1,1-Dichloroethane	VOCs	2002-2003	x	EPA 624
29	1,2-Dichloroethane	VOCs	2002-2003	x	EPA 624
30	1,1-Dichloroethylene	VOCs	2002-2003	x	EPA 624
31	1,2-Dichloropropane	VOCs	2002-2003	x	EPA 624
32	1,3-Dichloropropene	VOCs	2002-2003	x	EPA 624
33	Ethylbenzene	VOCs	2002-2003	x	EPA 624
34	Methyl Bromide	VOCs	2002-2003	x	EPA 624
35	Methyl Chloride	VOCs	2002-2003	x	EPA 624
36	Methylene Chloride	VOCs	2002-2003	x	EPA 624
37	1,1,2,2-Tetrachloroethane	VOCs	2002-2003	x	EPA 624
38	Tetrachloroethylene	VOCs	2002-2003	x	EPA 624
39	Toluene	VOCs	2002-2003	x	EPA 624
40	1,2-Trans-Dichloroethylene	VOCs	2002-2003	x	EPA 624
41	1,1,1-Trichloroethane	VOCs	2002-2003	x	EPA 624
42	1,1,2-Trichloroethane	VOCs	2002-2003	x	EPA 624
43	Trichloroethylene	VOCs	2002-2003	x	EPA 624
44	Vinyl Chloride	VOCs	2002-2003	x	EPA 624
45	2-Chlorophenol	VOCs	2002-2003	x	EPA 625
46	2,4-Dichlorophenol	VOCs	2002-2003	x	EPA 625
47	2,4-Dimethylphenol	VOCs	2002-2003	x	EPA 625
48	2-Methyl-4,6-Dinitrophenol	VOCs	2002-2003	x	EPA 625
49	2,4-Dinitrophenol	VOCs	2002-2003	x	EPA 625
50	2-Nitrophenol	VOCs	2002-2003	x	EPA 625
51	4-Nitrophenol	VOCs	2002-2003	x	EPA 625
52	3-Methyl-4-Chlorophenol	VOCs	2002-2003	x	EPA 625
53	Pentachlorophenol	VOCs	2002-2003	x	EPA 625
54	Phenol	VOCs	2002-2003	x	EPA 625

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CTR No.	Analyte Name	Analyte Group	Last Sampled by RMP in Ambient Bay Water	Sample in 2015?	Analysis Method
55	2,4,6-Trichlorophenol	VOCs	2002-2003	x	EPA 625
56	Acenaphthene	PAHs	2011		
57	Acenaphthylene	PAHs	2011		
58	Anthracene	PAHs	2011		
59	Benzidine	VOCs	2002-2003	x	EPA 625
60	BenzoaAnthracene	PAHs	2011		
61	BenzoaPyrene	PAHs	2011		
62	BenzobFluoranthene	PAHs	2011		
63	BenzoghiPerylene	PAHs	2011		
64	BenzokFluoranthene	PAHs	2011		
65	Bis2-ChloroethoxyMethane	VOCs	2002-2003	x	EPA 625
66	Bis2-ChloroethylEther	VOCs	2002-2003	x	EPA 625
67	Bis2-ChloroisopropylEther	VOCs	2002-2003	x	EPA 625
68	Bis2-EthylhexylPhthalate	SVOCs	2003	x	EPA 625
69	4-Bromophenyl Phenyl Ether	VOCs	2002-2003	x	EPA 625
70	Butylbenzyl Phthalate	SVOCs	2003	x	EPA 625
71	2-Chloronaphthalene	VOCs	2002-2003	x	EPA 625
72	4-Chlorophenyl Phenyl Ether	VOCs	2002-2003	x	EPA 625
73	Chrysene	PAHs	2011		
74	Dibenzoa,hAnthracene	PAHs	2011		
75	1,2-Dichlorobenzene	VOCs	2002-2003	x	EPA 624
76	1,3-Dichlorobenzene	VOCs	2002-2003	x	EPA 624
77	1,4-Dichlorobenzene	VOCs	2002-2003	x	EPA 624
78	3,3'-Dichlorobenzidine	VOCs	2002-2003	x	EPA 625
79	Diethyl Phthalate	Phthalates	2002-2003	x	EPA 625
80	Dimethyl Phthalate	Phthalates	2002-2003	x	EPA 625
81	Di-n-Butyl Phthalate	SVOCs	2003	x	EPA 625
82	2,4-Dinitrotoluene	VOCs	2002-2003	x	EPA 625
83	2,6-Dinitrotoluene	VOCs	2002-2003	x	EPA 625
84	Di-n-Octyl Phthalate	Phthalates	2002-2003	x	EPA 625
85	1,2-Diphenylhydrazine	VOCs	2002-2003	x	EPA 625
86	Fluoranthene	PAHs	2011		
87	Fluorene	PAHs	2011		
88	Hexachlorobenzene	Pesticides	2011		
89	Hexachlorobutadiene	PAHs	2002-2003	x	EPA 625
90	Hexachlorocyclopentadiene	VOCs	2002-2003	x	EPA 625
91	Hexachloroethane	VOCs	2002-2003	x	EPA 625
92	Ideno 1,2,3-cdPyrene	PAHs	2011		
93	Isophorone	PAHs	2002-2003	x	EPA 625
94	Naphthalene	PAHs	2011		
95	Nitrobenzene	VOCs	2002-2003	x	EPA 625
96	N-Nitrosodimethylamine	VOCs	2002-2003	x	EPA 625
97	N-Nitrosodi-n-Propylamine	VOCs	2002-2003	x	EPA 625
98	N-Nitrosodiphenylamine	VOCs	2002-2003	x	EPA 625
99	Phenanthrene	PAHs	2011		
100	Pyrene	PAHs	2011		
101	1,2,4-Trichlorobenzene	VOCs	2002-2003	x	EPA 624
102	Aldrin	Pesticides	2011		
103	alpha-BHC	Pesticides	2011		
104	beta-BHC	Pesticides	2011		
105	gamma-BHC (Lindane)	Pesticides	2011		
106	delta-BHC	Pesticides	2011		
107	Chlordane	Pesticides	2011		
108	4,4'-DDT	Pesticides	2011		
109	4,4'-DDE	Pesticides	2011		
110	4,4'-DDD	Pesticides	2011		
111	Dieldrin	Pesticides	2011		

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CTR No.	Analyte Name	Analyte Group	Last Sampled by RMP in Ambient Bay Water	Sample in 2015?	Analysis Method
112	alpha-Endosulfan	Pesticides	2011		
113	beta-Endosulfan	Pesticides	2011		
114	Endosulfan Sulfate	Pesticides	2011		
115	Endrin	Pesticides	2011		
116	Endrin Aldehyde	Pesticides	2002-2003	x	EPA 608
117	Heptachlor	Pesticides	2011		
118	Heptachlor Epoxide	Pesticides	2011		
119	Aroclor 1016	PCBs	2011		
120	Aroclor 1221	PCBs	2011		
121	Aroclor 1232	PCBs	2011		
122	Aroclor 1242	PCBs	2011		
123	Aroclor 1248	PCBs	2011		
124	Aroclor 1254	PCBs	2011		
125	Aroclor 1260	PCBs	2011		
126	Toxaphene	Pesticides	2002-2003	x	EPA 608
	Tributyltin	Metals	2002-2003	x	GC/MS
	Chlorpyrifos	Pesticides	2011		
	Diazinon	Pesticides	2011		
	Total Solids	Ancillary	--		Required to be sampled at the same time as dioxins, furans and PCBs
	pH	Ancillary	--	x	Field measurement
	Stream Flow Rate, upstream	Ancillary	--		Required for effluent discharges only
	Total Hardness	Ancillary	--	x	SM2340C
	Salinity	Ancillary	--	x	Field measurement

1 - All analytes will be measured as total recoverable concentrations. Total metal concentrations will be converted to dissolved concentrations for comparison with EPA's dissolved metals water quality criteria.

2 - Analytes in grey text were measured within the past 4 years during an RMP Status and Trends Water Cruise so relatively recent data are available. These analytes will not be monitored in 2015.

Table 2
2015 RMP S&T CTR Monitoring Budget Estimate

Analyte Group	Method	Unit Cost	Number of Samples ¹	Cost
Total Hardness	SM 2340C	\$32	5	\$160
Sb, Be, Tl	EPA 200.8	\$130	5	\$650
Total Cr	EPA 200.8	\$35	5	\$175
VOCs/SVOCs/PAH/phthalates	EPA 624 / 625	\$756	5	\$3,780
Organochlorine Pesticides	EPA 608	\$207	5	\$1,035
Tributyltin	GC/MS	\$350	5	\$1,750
Asbestos	EPA 100.1/100.2	\$150	1	\$150
<i>Subtotal - Analytical Costs</i>				\$7,700
Task				Cost
SFEI Field Staff and Project Management				\$2,000
Data Management				\$10,000
Report Writing				\$5,000
<i>Subtotal - Labor Costs</i>				\$17,000
Expense				Cost
Vessel (no charge if samples are collected during 2015 Water Cruise)				\$0
Trace Elements Supplies				\$300
Organics Supplies				\$500
Shipping				\$500
<i>Subtotal - Other Direct Costs</i>				\$1,300
Total Cost				\$26,000

1 -- The number of samples includes samples collected and 3 monitoring locations and 2 quality control samples. Asbestos monitoring is only required in MUN-designated receiving waters, and the Regional Board has approved monitoring asbestos at only one monitoring location (Sacramento River monitoring station).