

Emerging Constituents Workgroup

September 22, 2009

ATTENDEES:

LeAnne Hamilton, IEUA	Max Rasouli, City of Riverside
Greg Woodside, OCWD	Kevin Street, City of Riverside
Darrell Smith, Floating Islands West	Craig Justice, City of Riverside
Marsha Westropp, OCWD	Lyndy Lewis, City of Corona
Craig Miller, OCWD	David Aladjem, SBVMWD/WMWD
Jason Dadakis, OCWD	Sam Fuller, SBVMWD
Bart Koch, MWDSC	Mark Bulot, SBVMWD
Roger Lewis, LACSD	Edward Filadelfia, EMWD
Jodie Nygaard, LACSD	Jayne Joy, EMWD
Linda Garcia, WMWD	Julius Ma, EVMWD
Bobby Gustafson, City of SBMWD	Allison Mackenzie, E.S. Babcock & Sons
Valerie Housel, City of SBMWD	Larry Chrystal, E.S. Babcock & Sons
Oliver Pacifico, CDPH	Gerard Thibeault, CRWQCB
Sean McCarthy, CDPH	Hope Smythe, CRWQCB
Jack Nelson, YVWD	Tim Moore, Risk Sciences
Kathy Kunysz, MWDSC	Mark Norton, SAWPA
Jeff Mosher, NWRI	Regina Patterson, SAWPA
Jim Colston, OCSD	

Call to Order / Introductions

The Emerging Constituents Workgroup (EC) meeting was called to order at 9:35 a.m. at the Santa Ana Watershed Project Authority located at 11615 Sterling Avenue, Riverside, California. Introductions were made.

Approval of August 25, 2009 Meeting Summary

Mark Norton presented the August 25, 2009 Meeting Summary for approval. Hearing no comments, the Meeting Summary was received and filed as presented.

Mr. Moore provided a video "The Hubble Ultra Deep Field" and discussed it briefly reporting that he has been invited to speak about emerging constituents to the Blue Ribbon Panel on why this workgroup is doing this, what we expect to get, what we intend to achieve, how we are doing it, and why it is important. What do we want from them in return? What message can be carried? We will finalize the outline for the investigation program for preparation of the final to the Board by the end of the year. The draft should be ready next month.

He provided a revised version of the analyte list reporting a column labeled "USGS Oregon Study" has been added that shows what was detected. An analysis was done in 2002 but the report was not published and made final until 2009.

The initial list from the last meeting was sent to labs to determine the cost for this kind of work. One constituent that will be a problem is Meproamate. It is a DEA controlled substance that is

difficult to obtain standards for, and to get the lab certified and registered to work with it. That will greatly limit our choice of research labs. He recommended Meproamate be deleted from the final list of analytes unless there is a substantive reason it should continue to be included. The list, as it is structured, will be approximately \$1,000 per sample. The only complicating chemical on the list thus far is 1,4-Dioxane because the method used is different than the method for the other constituents on the list. While comparing the list to the Oregon Study, he became aware that in some cases people were looking at Ethynylestradiol and in other cases, Estrone. Why? Bart Koch stated that Ethynylestradiol (only manmade) was chosen because it had a higher detection limit. The reason there are so many detections of Estrone (either manmade or natural) is because of the low detection level.

Jeff Mosher said the reason to measure a hormone is to show that it is removed through treatment processes. He recommended documenting and providing a matrix for the justifications of certain hormones. Information is currently being collected on gross parameters (TOC, etc.), and it would be useful to pull in other things that give an indication of the constituents in the water because that will tell us if things are moving up or down over time or within a season. He said there are other indicators that are not on the list that could be used to enhance monitoring for individual compounds. It's a different layer, but taken together could provide a better sense of what's going on.

Discussion ensued regarding lab methods and Mr. Mosher stated it is important to understand the methods and choosing ones that can be done in a commercial lab. Terms can be negotiated, but the labs will charge for all analytes, not just one.

Greg Woodside presented a memo on the subject "Data for Emerging Constituents Workgroup" providing tables displaying a summary for 1,4-Dioxane data and a summary of trace organics for the period July 1, 2007 to June 30, 2008 for the Santa Ana River at Imperial Highway. An annual monitoring report is prepared each year for the river. That report was reviewed with the Regional Board staff and DPH and the NWRI review panel. The NWRI has a panel that reviews OCWD's monitoring program. A meeting is typically held in the Fall to summarize the data from the previous water/fiscal year. The Santa Ana River at Imperial Highway has the most data for the river in Orange County. The tables included data for volatile organic compounds, hormones, Phenols, PCBs, SOCs, Polycyclic Aromatic Hydrocarbons, and herbicides. He reviewed and discussed some of the hormones and caffeine. Back in 2000 there was an industrial source of 1,4-Dioxane that made its way into a recycling facility in Fountain Valley. Larry Chrystal reported that a new method has been developed for 1,4-Dioxane. It is very sensitive and is on the candidate list.

It was commonly used with TCE and PCE as a stabilizer.

Mr. Moore stated they tried to select at least two from each category, in keeping with the original DPH recommendation that one would select a representative surrogate out of each category. Discussion ensued and Mr. Moore provided an analyte list and a sampling locations list from MWD for their PPCP monitoring program. The analyte list used the LC-MS and GC-MS methods. The GC-MS method list shows several non-detects. This list will go away to avoid the use of two methods.

Mr. Moore said he would recommend the final investigation plan be written so that our rationale is better supported by adding caffeine and Bisphenol A using the LC-MS²-10 method, bringing it down to ten, addressing the public issue, and letting the 1,4-Dioxane be covered by other regulatory initiatives and other notification levels as it already is. We will change Estrone to EE2 and add a section on communication.

One of the criteria set forth as the basis for why we would choose a chemical is if this was a matter that was becoming regulatory, and EPA was deciding what the MCL should be for Atrazine. This presence issue would be essential information for that process. It would guide future regulatory decisions. That was a good rationale for choosing that chemical.

Mr. Mosher said it is important to include the personal care products on the list because pharmaceuticals are not voluntary. Personal care products are more voluntary because we can choose to use less shampoo or soap.

Mr. Moore presented a list of other common PPCPs listing Cholecalciferol, di-Alpha Tocopheryl Acetate, Phytonadione, Pyridoxine Hydrochloride, and Cyanocobalamin reporting the risks are not actual but perceptual.

The Workgroup adjourned for a break at 11:10 a.m. and reconvened at 11:20 a.m.

Outline of Phase II Strawman Monitoring Program

Mr. Moore discussed the "Conceptual Outline for 2010-2011 EC Characterization Program" (copy attached). He stated that he will add an item 1.3 to describe Existing Monitoring and Assessment Programs. A workgroup member referring to item 1.2.1 asked what is contaminated water? Mr. Moore said it is identifying the possible presence of wastewater. Mark Bulot recommended moving 1.2.4 up to the introductory paragraph. Mr. Moore said he will reorganize the document as suggested.

Mr. Moore suggested that EC concentrations be characterized in the following sample locations: POTWs, selected MS4 outfalls, select river sites (MWD crossing and immediately below Prado dam, and representative sites for State Project Water and Colorado River water that is imported and recharged in the region. Metropolitan Water District of Southern California (MWD) is planning to continue their EC sampling program in the 2010-2012 timeframe. MWD intends to coordinate their list of analytes with those suggested by the EC workgroup as much as is reasonably possible. Representatives from MWD recommended selecting a list of analytes that reduced the number of different methods required to make best use of available laboratory resources. This may mean accepting slightly different minimum reporting levels (MRLs) in order to avoid using two different analytical methods.

Mr. Moore recommended that all POTWs analyze effluent samples annually for ECs during the next 2010-11 characterization phase. This is consistent with the monitoring frequency set forth in the State Board's new Reclaimed Water Policy (RWP). In addition, RWP requires recycled waters to analyze for Priority Pollutants twice per year. Most POTWs are already sampling for all Priority Pollutants at least once each year.

The MS4 permittees will be asked to analyze stormwater samples for various ECs. Ms. Smythe said she believed it would be better to collect samples to represent both stormflow conditions and baseflow conditions. As a result, the water districts will be asked to collect and analyze samples from the Santa Ana River during baseflow conditions.

There was considerable discussion on whether or not to characterize ECs from various groundwater wells. While the group generally favored such monitoring, it was agreed that this effort was more complex and more time was needed to design a useful program. In addition, the group believed it was essential to review the results from the USGS's Groundwater Ambient Monitoring Assessment (GAMA) in the Santa Ana region before collecting and analyzing additional groundwater samples for ECs. The USGS report is expected to be published before the end of the year and the group committed to discuss follow-up plans for groundwater monitoring in 2010. In the meantime, the workgroup will coordinate with water suppliers to prioritize potential subsurface sampling locations.

Kathy Kunysz asked if it would make sense to monitor some groundwater locations that are not under the influence of recharge from recycled water in order to provide more meaningful data to compare with locations that are affected by the recharge of recycled water. Mr. Moore agreed that such comparisons would be useful and recommended that the group consider this approach when it works on the groundwater characterization program next year.

Mr. Moore suggested that the EC data should be delivered to the Regional Board as an appendix to the Annual Water Quality Report for the Santa Ana River that is prepared by SAWPA. The report is usually published each August. Therefore, EC sampling would need to take place in early spring. The preliminary results would be vetted by the workgroup prior to final publication. Mr. Moore indicated that the workgroup may also elect to seek additional scientific peer review in some cases. The Regional Board staff stated that the annual EC report should include any appropriate recommendations for follow-on sampling, analyses, source identification for subsequent monitoring efforts. The workgroup concurred with all of these suggestions.

Blue Ribbon Panel – Status Update

Mr. Norton reported an email update was sent from IEUA about the progress. Mr. Moore stated that parts of the Blue Ribbon Panel meeting are open to the public on Wednesday, September 30th from 8:30 a.m. to 5:00 p.m. at the Southern California Coastal Water Research Project (SCCWRP) office at 3535 Harbor Boulevard, Suite 110 in Costa Mesa. Mr. Moore's presentation is scheduled for 11:15 a.m. that day. The entire meeting will also be webcast. Those desiring to view it on-line can contact the Southern California Coastal Water Research Project (SCCWRP) for access information.

Future Meeting(s)

Tuesday, October 20, 2009 at 1:30 p.m.

Adjournment

The Emerging Constituents Workgroup meeting adjourned at 12:00 p.m.

Handouts

1. OCWD Memo re Data for ECs Workgroup
2. Revised Matrix of Candidate ECs for Characterizing Groundwater Recharge Projects
3. Reconnaissance of Pharmaceutical Chemicals in Urban Streams of the Tualatin River Basin, Oregon 2002 - USGS
4. MWD of SC PPCP Monitoring Program - Analyte List
5. MWD of SC PPCP Monitoring Program - Sampling Locations
6. EC Data - WEI
7. Conceptual Outline for 2010-2011 EC Characterization Program - Risk Sciences
8. Other Common PPCPs - Risk Sciences