

Trace Organics Subcommittee Meeting

6/29/2009 Department of Ecology (2B-18)

Time	Topic	Who	Decision or Action Needed
1:00 p.m. – 1:15 p.m.	Introductions, review agenda	Jim	Adjust agenda if necessary
1:15 p.m. – 1:45 p.m.	Review prior TAP recommendations and rationale	Jim/Kathy/Craig	Information only
1:45 p.m. – 2:30 p.m.	Identify key issues and questions we have	All	Brainstorm and identify action items
2:30 p.m. - 2:45 p.m.	Break		
2:45 p.m. – 3:15 p.m.	Identify literature to be reviewed	Jim and group	Assign literature review to group members
3:15 p.m. – 3:45 p.m.	Identify experts who may be able to answer questions	Jim and group	Assign contact responsibilities to group members
3:45 p.m. – 4:00 p.m.	Wrap up	Jim	Agenda and action items for next meeting
Next meeting	Choose July date: 14(am), 15, 16(pm), 20(pm), 21(pm)		

Attendees: Karla Fowler, Doug Raines, Jim McCauley (Chair) Tim Gaffney (notes)

Via phone: Dave Clark, Kathy Cupps, Susan Kaufman-Una, Craig Riley, Heather Trim, and Kara Warner

Ecology staff opened the meeting with introductions. The agenda was agreed upon as listed.

Review of prior work/recommendations

Ecology presented a history of the Reclaimed Water Rule Advisory Committee (RAC) and the Technical Advisory Panel (TAP) efforts to formulate recommendations for the draft rule on the trace organics issue. Subcommittee participants received a summary paper from the Water Environment Research Foundation (WERF) titled Trace Organic Compounds and Implications for Wastewater Treatment, Dr. Paul Anderson, 2008. The TAP had reviewed this summary and agreed that it also represented their recommendations on this topic. An environmental representative requested a copy of the full WERF report by Dr. Anderson. That document is copyrighted and must be ordered directly from WERF. A hard copy may be available for review. A discussion ensued regarding terminology. An environmental representative felt that the term “trace organics” was a biased term and requested using another term that did not put a “spin” on the issue. Other terms in popular use include emerging contaminants, endocrine disruptors, pharmaceuticals and personal care products (PPCP’s), emerging chemicals, emerging contaminants of concern, and microconstituents. No final decision was made on what to call these substances.

Ecology noted that Ecology’s Environmental Assessment Program (Melanie Redding) has completed a draft literature review paper on PPCP’s that is scheduled for publication in August, 2009. Melanie has provided presentations about her research on PPCP’s to the TAP and to other groups. Ecology staff will try to secure an electronic copy of Melanie’s power point presentation for subcommittee use. The King County representative stated that they had teamed with the University of Washington to produce a 2008 report on the fate of PPCPs for turf grass irrigated with reclaimed water.

Ecology staff seeks to adopt a rule that is both protective of the environment and public health and does not discourage reclaimed water uses by adopting water quality criteria more stringent than drinking water, surface water, or groundwater standards. Based on information currently available, Ecology is considering implementing the following recommendations from the TAP:

1. Use the summary findings of the WERF report by Dr. Anderson and Ecology’s literature review as a guide. Follow the lead of the USEPA and state drinking water and wastewater programs. Do not establish numeric water quality criteria at this time.
2. Support voluntary sampling and analysis, where feasible.
3. Encourage the USEPA to continue research in this area and to provide additional guidance to states.
4. Provide sufficient flexibility to add future requirements when recommended by the USEPA and supported by sound science.

Ecology seeks input regarding how best to incorporate narrative requirements and best management practices into the draft rule and state permits.

Identifying Key Issues for PPCPS and EDCs:

An environmental representative commented that the trace organics/endocrine disruptor issue is much broader than the context of reclaimed water. It is a high profile issue for wastewater discharges and drinking water systems. . A reference was made to public reaction to the series of three Assoc. Press articles on PPCPs in drinking water. Public perception of reclaimed water in the community is a significant concern. An environmental representative expressed concern that the environmental community does not agree with the TAP recommendations to Ecology for this rule. Volunteer monitoring in particular is a concern. Some stakeholders advocate something above and beyond voluntary monitoring, perhaps a state of the science review every two or three years. A municipal wastewater system representative noted that periodic monitoring of specific surrogate substances may not be quite refined enough at this point. Ecology staff recommended that participants review the EPA guidance in their 2004 publication and more recent online materials. Also participants should track research and seek expert advice from other states and countries that are developing the science. A two part idea was put forward:

- A. Have as a permit condition that once every 2 to 3years the Permittee (or a group of Permittees) must report on the state of the science
- B. Require monitoring for substances when it becomes feasible and meaningful.

An example of this state of the science approach was a concept brought out at Discussion Groups prior to renewal of the West Point Wastewater system permit in King County. An environmental representative suggested that a literature search or feasibility study should be incorporated into operating permit conditions.

It was suggested that the state of the science be evaluated every two to three, or perhaps five years. Currently, King County has an endocrine disruptor study as a joint effort with the University of Washington. They completed a turf grass study, and are currently working on a reclaimed water application to food crops study.

A public utility representative expressed concern about the impact of this concept on very small municipal utilities? It was suggested that they may be able to team up with larger utilities to share the costs of these studies.

It was noted that current studies show what PPCPs are there, but they do not make a risk assessment of what it means to have x amount of chemical y in parts per trillion or quadrillion of reclaimed water, or drinking water, ground water or surface water.

Laboratories have not developed reliable test methods for some substances and new substances are developed all the time. An underlying issue is that labs tend to test for a sub-set sleeve of chemicals, because their testing facilities and methods are good at measuring that sleeve of chemicals. It is difficult to develop a list of surrogate substances to test for but that is where some of the current research efforts are directed. This needs to be refined further.

Ecology seeks input to provide something in the rule that will allow for a certain level of flexibility. Recommendations should consider ecological and wildlife impacts that are tied to the end use of the reclaimed water. Other factors are source control and design flexibility to add processes such as advanced oxidation. For some uses, Ecology already requires nutrient removal and TOC monitoring. Ecology seeks input to decide where to locate trace organic standards in the draft rule. Should content be for all reclaimed water projects and uses under the class based requirements (Part IV) or should it be only for specific types of uses (Part VI)?

Identify Literature Sources:

The subcommittee identified the following information sources:

1. Melanie Redding's power point presentation and literature review "Pharmaceuticals and Personal Care Products in the Environment", expected availability August, 2009
2. Dr. Anderson's WERF report "Trace Organic Compounds and Implications for Wastewater Treatment", 2008
3. King County and U. W. report "Fate of PPCPs and Growth Response for Reclaimed Water Irrigated Turf Grass", 2008
4. EPA web site for PPCP's.
5. National Academy of Science, Dr. Rhodes Trussel, chair
6. AWWA Drinking Water Study, Dr. Pleus of Intertox
7. Ecology/EPA Study in which LOTT participated, Brandi Lubliner
8. Kitsap County Literature review, Kara Warner, Golder and Assoc.
9. NOAA and the USGS web sites
10. WateReuse publication "Development of Indicators and Surrogates for Chemical Contaminant Removal during Wastewater Treatment and Reclamation" 2008
11. State of California rule and policy development websites

Identify Experts:

The subcommittee identified the following experts that we may want to contact for advice or recommendations:

1. Richard Pleus, Ph.D, Intertox, Seattle, WA
2. Gregory Korshin, Ph.D. U. of Washington
3. Shane Snyder, Ph.D., Southern Nevada Water Authority
4. Bob Bastian, USEPA

Next Meeting:

The next meeting needs to take place after the WQ partnership meeting on 7/15/2009. The RAC and water rights committees meet the week of July 20th. Some members will be taking vacation in late July and early August. Participants suggested that Ecology send an e-survey to find a meeting date.

Action Items

1. The King County representative and environmental representative agreed to provide a written proposal on the "state of the science" concept at the next meeting of the subcommittee.
2. All participants should review the 2004 EPA guidelines and more recent online materials. Information is also available at the USEPA website and the USGS website.
3. Research what other key states have done in permits or rules regarding monitoring and scientific information on trace organic chemicals. States suggested were California, Colorado, Florida, Idaho, and Oregon. Ecology staff will provide a list of regulatory contacts and links to information from California. The environmental representative expressed interest in contacting other states for their input.
4. Ecology staff will send a Doodle survey to find an August 2009 date for the next meeting.
5. Ecology staff will distribute information, when available. Information from action items identified needs to be distributed at least one week prior to the next meeting date.